The Bradshaw Lecture

ON

THE ASSOCIATION OF INGUINAL HERNIA WITH THE DESCENT OF THE TESTIS.

Delivered before the Royal College of Surgeons of England on Dec. 12th, 1900,

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MR. PRESIDENT AND GENTLEMEN,—The first lecture under the Bradshaw bequest was delivered 18 years ago by the late Sir James Paget who since the last lecture by Mr. Howse has passed away full of years and full of honour. From whatever aspect we view his career—be it his professional, scientific, or his deeply religious life, or be it his untiring energy, his ceaseless work, or his never failing courtesy—all must feel that he fully upheld the highest traditions of our profession and lived his life a noble example to us and a pattern for all time. The title of his lecture, as many here will recollect, was "Some New and Rare Diseases." I cannot claim such a novel subject for my lecture on "The Association of Inguinal Hernia with the Descent of the Testis," for it is a subject so old that it claims its centuries of literature, it is so common that it affects probably not less than 5 per cent. of the entire population at all ages of life.

The descent of the testis is a developmental process which exerts a dominant influence as a cause of hernia in infants, an influence, however, less powerful as age advances. The journey of the testicle from its original site of development below the kidney to its ultimate destination in the scrotum materially weakens the lower abdominal walls, and thus contributes in no small extent to the extrusion of some of the abdominal viscera, especially if associated with a congenitally elongated mesentery. This want of parietal integrity is chiefly manifested in the early periods of life, but the weakness left by the passage of the testis exists to a greater or less degree throughout life and thus acts as a predisposing factor of hernia at all ages. *Ab initio* the testes are developed in the lumbar regions below the kidneys, and subsequently make their descent about the seventh or eighth month of intra-uterine life towards the scrotum which they have usually reached before birth. The left testis descends three weeks in advance of its fellow, so that the complete developmental processes have usually been attained on that side at birth, whereas those on the right side are not complete. Many dissections have been made by Camper, Paletta, Schreyer, Seiler, and others who have demonstrated a failure in the closure of the vaginal process of the peritoneum, amounting on the right side to 21 per cent., on the left side to 13·5 per cent., and on both sides to 35 per cent.[1] It is noteworthy that frequently, probably more often than not, the processus vaginalis is unclosed to a greater or less extent at birth without the occurrence of any protrusion, thus affording a reasonable inference that a hernia does not exclusively depend on the patency of this peritoneal prolongation. At a later period I shall call attention to the fact that the vaginal process of the peritoneum may be completely patent throughout life without the occurrence of a hernial excursion. The more frequent failure at birth of the right vaginal process explains the large preponderance of congenital hernia on the right side as compared with the left. The descent of the testis is accomplished in part by the greater development of the upper part of the body, in part by a vital process, but chiefly by the action of the gubernaculum testis.[2] The gubernaculum, situated between the peritoneum and the psoas muscle, is attached by its upper end or apex to the testis, while its lower end frays out like a goose's foot. One of these lower processes is attached to the pubic crest, another, and by far the largest and strongest part, passes into the scrotum, while the third portion is attached to Poupart's ligament close to the inguinal canal. Sometimes accessory prolongations can be demonstrated passing to the saphenous fascia over Scarpa's triangle and more rarely to the perineum, where it becomes lost in the tissues about the region of the anus and the ischial tuberosities. These aberrant fasciculi account for the abnormal positions in which the ectopic testes are from time to time found.[3]

The testis is invested in front by the peritoneum and in its descent to the scrotum carries with it a peritoneal process which precedes it and eventually forms the tunica vaginalis testis. This serous prolongation does not appear to be dependent on the testicular descent, for instances are not rare in which the testis is completely retained but with the vaginal process lying complete in the scrotum and completely shut off from the general abdominal peritoneal cavity. Specimens illustrating this are seen in most of the museums, and an especially interesting one is in the University College Hospital museum, which was removed from a cryptorchid, showing a well-developed processus vaginalis in each half of the scrotum.[4] I have on many occasions seen instances of a long vaginal process containing more or less ordinary hydrocele fluid far in advance of a partially descended testis.

The upper portion of the peritoneal process pushed in front of the testis in its descent into the scrotum normally becomes obliterated by the closure of its canal from the internal abdominal ring to the upper part of the testis and subsequently dwindles into a long, slender cord, whilst the lower portion of the peritoneal pouch forms the tunica vaginalis testis. Failure in the complete developmental process often occurs with the result that the testicular sac communicates directly valvularly with the abdominal peritoneal cavity. A hernia descending through the unobliterated portion into the cavity of the tunica vaginalis testis is called a "congenital hernia" or preferably "a hernia into the cavity of the tunica vaginalis testis." The term "congenital hernia" lacks definiteness, as it may be interpreted in two senses, either that the hernia dates from birth, which is not true, or that it is dependent upon an arrest of development of congenital origin, which is true. This nomenclature should be strictly confined to the anatomical position of the hernia and not to its assumed chronological appearance.

In acquired inguinal hernia the protrusion with its sac lies in front of the chord and the testis, the sac being loosely connected with the chord, from which it can be easily detached. In congenital hernia, on the other hand, the constituents of the chord are firmly attached to the sac, so that it needs careful dissection to remove the thin membrane which forms the congenital sac and so adds much difficulty in the operation for the radical cure of this variety of hernia.

Sir William Lawrence in his still admirable "Treatise on Ruptures"—a term, by-the-bye, to which much exception may be taken—and other writers also, felt the inappropriateness of the word "congenital," for the former states in a footnote that in a limited sense the term "congenital hernia" may be condoned, but he further says: "I cannot understand for what reason Mr. Pott and some others have exchanged this for the appellation *congenial* which according to its common use and acceptance must be perfectly absurd as applied to this or any other form of rupture."[5]

The second variety is the *funicular hernia* in which a protrusion takes place into the vaginal peritoneal process closed only at its lower part and consequently separate from the testicular sac, the upper part being still patent.[6] The following diagrams represent the closure of the vaginal process from below upwards but leaving the upper portion still patent into which a hernia descends. In Fig. 1 the lower end of the vaginal process has commenced to be narrowed but still communicates by a large neck with the cavity of the tunica vaginalis testis. This is the commencement of the closure of the canal. In this form there is

[1] Camper reports that in 52 cases the vaginal process of the peritoneum was patent in 11 instances on the right side, in six instances on the left side, and in 23 cases on both sides. Seiler found the canal still unclosed in four cases on both sides, in five on the right side, and in four on the left side, out of a total number of 21 cases.

[2] John Hunter: Descent of the Testicle in the Animal Economy, London, 1786. Braumann: Archiv für Anatomie und Physiologie, 1884, p. 310. Cleland: Mechanism of the Gubernaculum Testis, 1856, p. 34. Weil: Ueber den descensus Testiculorum, Zeitschrift für Heilkunde, 1884, p. 228. Godard: Études sur la Monorchidie et la Cryptorchidie chez l'Homme, Comptes Rendus de la Société de Biologie, Paris, 1857, p. 315.

[3] C. B. Lockwood: Development and Transition of the Testes, London, 1888, pp. 97 and 102. Kocher: Die Krankheiten der Menschlichen Geschlecht-organe, 1887. McCarthy: Quain's Dictionary of Medicine, 1882.

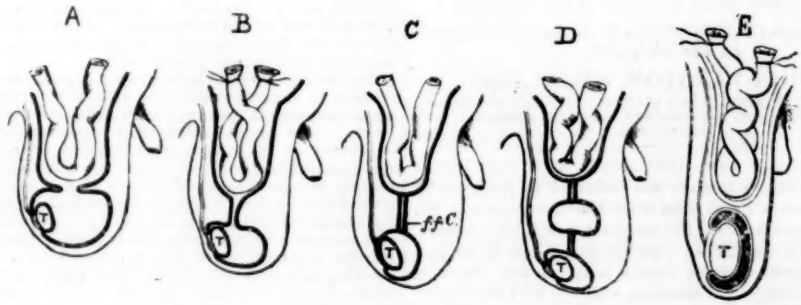
[4] University College Hospital Museum, Specimen 1137.

[5] Lawrence: Treatise on Ruptures, p. 491.

[6] St. Bartholomew's Hospital Museum, Specimen 2540.

often some fluid which is reduced easily *pari passu* with the intestine into the abdominal peritoneal cavity. In the second stage the funicular sac is further separated from the testis with its tunic but it still communicates with its cavity by a longer and narrower canal. In this stage fluid is also frequently present in the processus vaginalis except at the extreme upper part, so that the tunica vaginalis testis extends up to the inner ring, where it is closed, in which case a hernia may be protruded behind the process and then descend behind the tunica vaginalis testis to the scrotum, as in Fig. 2. Sometimes the abdominal terminations of the processus vaginalis may be

FIG. 1.



(After Félizet.)

Congenital hernia: second variety.—Into the inclosed funicular process and its method of closure—funicular hernia.

a. Hernia into the funicular process with a large patent neck communicating with the cavity of the tunica vaginalis testis. T. testis. *b.* Hernia into the funicular process with a long narrow canal communicating with the patent tunica vaginalis testis. *c.* Hernia into the funicular process connected by a long thin cord to the tunica vaginalis testis. *f.f.C.* Filament fibreux de Cloquet. *d.* Funicular hernia with an encysted hydrocele of the cord between it and the tunica vaginalis testis. *e.* Hernia into the funicular process—funicular hernia.

sacs, and when the taxis is applied it is reduced gradually at first, but as the closure progresses the lumen becomes so narrow and tortuous that the fluid is irreducible. The narrow canal becomes more elongated and eventually closed, so that no communication now exists between the testicular and funicular sacs. The long white fibrous cord connecting these two sacs is called the filament fibreux of Cloquet, which frequently encloses a small, narrow canal which at some later period may become expanded by a collection of fluid and form an encysted hydrocele of the chord in Fig. D. This long canal, however, normally becomes completely closed and is converted into a white fibrous cord which is easily recognisable by dissection or during operation.[7] The funicular sac, although usually long, sausage-shaped, may be constricted annularly in one or more places, so as to give the appearance of one or more bulges in a hernial protrusion. In operating for the radical cure we not infrequently come across an annular thickening, usually about the middle and narrowest part of the process, and in two instances I have come across a diverticulum in the sac immediately above the constriction. It is a moot point as to the cause of this ring of fibrous tissue. By some it is ascribed to the displaced neck of the sac, but I think it is due to the attempted closure of the lower part of the vaginal process.[8]

A third variety of congenital hernia known as infantile hernia is seen in an arrested development of the closure of

FIG. 2.

Congenital hernia: third variety.—Infantile hernia, in which the hernial sac and its contents lie behind the testis, invested by its elongated tunica vaginalis testis.

[7] John Birkett: Holmes's System of Surgery.
[8] St. Bartholomew's Hospital Museum, Specimen 2123.

patent, as in Fig. 4, so that it is not essential for this communication to be closed to constitute it an infantile hernia.

FIG. 3

Infantile hernia: St. Bartholomew's Hospital Museum, 2140b.

In Fig. 3 the funicular process of the peritoneum is closed at its extreme upper end at a level with the internal ring, but for the rest of its extent it remains as an oval tube. A hernia descending posteriorly to the inner ring has made its way behind the unclosed funicular process.[9] An infantile hernia, as before said, exists with a patent mouth in which a hernia has pushed a sac behind it and into which it is probable that a hernia has passed, as also into the anterior patent

[9] St. Bartholomew's Hospital Museum, Specimen 2140b.

processus vaginalis. In this instance it is evident that the infantile hernia was not the outcome of a closed vaginal process at the inner ring.

Another variety of infantile hernia is observed from time to time where the hernia, instead of continuing its descent behind the chord and testis, pushes itself forwards into the

FIG. 4.

Congenital hernia: third variety.—Infantile hernia into a sac behind the cavity of a patent tunica vaginalis testis into which a hernia also passed.

unclosed vaginal process, which on being opened reveals a convex tumour bulging the posterior wall forwards and occupying more or less of the vaginal sac. This is without doubt one of the forms of the so-called encysted hernia of Hey and others, and its pathology has been described by Mr. Lockwood in which he shows that it is a modified variety of the first form of infantile hernia.

There is another form which may be included in the infantile hernia but which presents such differences that it might be classified as a distinct variety of congenital hernia. It consists of an oval fibrous sac which is pushed vertically downwards into an unobliterated vaginal process and attached by its neck to the inner ring. The sac hangs free in the vaginal cavity and differs from the firm, fleshy, and globular sac of the variety just described. In an illustration of Cooper's work (Plate xi.) there is represented an oval fibrous sac containing a loop of intestine hanging by its neck in the cavity of an enclosed tunica vaginalis testis. This is an encysted hernia.

Some months ago I operated at St. Bartholomew's Hospital for the radical cure on a young man who, we believed, suffered from an ordinary funicular hernia, but with thicker walls than usual. I opened what was thought to be the sac of the hernia, but I discovered that it contained about two ounces of ordinary hydrocele fluid in a sac which extended as high as the inner ring. On evacuation of the fluid an oval sac of the size of a large olive was found hanging by its neck in the hydrocele sac. The second sac, which was firm, fibrous, and thin, on being opened was found to be empty and it communicated by a large oval mouth with the abdominal peritoneal cavity. At the time of the operation the sac was empty, but it had evidently contained some entero-epiplocele. The sac was dependent from the neck of the hydrocele sac and was placed immediately above and not behind the chord as seen in ordinary infantile hernia. The case may by some be considered as an instance of an infantile hernia, but its connexions, situation, and structure were so different from that usually considered as an infantile hernia, that it must clearly be relegated to a distinct variety of infantile hernia.[10] My explanation of this specimen is that a large sac containing hydrocele fluid was a funicular hydrocele separated from the testicular sac and that into it had descended an inguinal hernial sac or an encysted hernia.

Experience shows that hernia in male infants under six months is much more frequent than in females of the same age. Inguinal hernia occurs eleven times more often in boys than in girls under the age of 12 months, the exact figures being 3215 infant boys to 290 infant girls. These numbers refer to the date of the first application of the patients for relief and not to the date of the first discovery of the lesion. The importance of differentiating these is at once apparent, as the first refers only to the age of examination by the surgeon when the patient is under the age of one year, and therefore cannot fail to be correct, whereas the second includes not only these but also all patients who come for relief at later ages and date the first occurrence of their hernia to birth, but whose statements cannot be accepted as absolutely reliable. The proportion, as already stated, is under the first class as 15 males to one female, while in the second class of patients who date their hernia from birth it is as 16 to one.

Inguinal hernia in infant boys is three times more frequent on the right side than on the left, whereas in infant girls the two sides are nearly equal. This disproportion between the two sides in boys is explained by Camper and others by the fact that the processus vaginalis is much more commonly patent in boys at birth on the right side than on the left. The consistent preponderance of ruptured boys as against ruptured girls which repeats itself so persistently

FIG. 5.

Encysted hernia. Guy's Hospital Museum.

year after year in our records at the City of London Truss Society may be accounted for, firstly, in the structural weakness in the abdominal walls caused by the passage of the testis through them during intra-uterine life, whereby the walls are unable effectually to resist the constant pressure from within, and, secondly, to the failure in the perfect occlusion at birth of the processus vaginalis.

The following table states the relative proportion of the frequency of hernia in each quinquennial period as given by the patients as the date of the first discovery of the hernia. It shows that during the first year of life hernia in boys reaches the high percentage of 15·22 of the total number, whereas in the case of girls it is only 8·55 per cent. There must therefore be some other dominant cause of hernia in boys beyond the general tendency to hernia in both sexes and this factor is the descent of the testis.

Children born prematurely are very liable to hernia at birth and, so far as my experience goes, the hernia is more frequently on both sides than when infants are born at full term. The cause of this is not far to seek, as under these circumstances the vaginal processes are patent on both sides. That inguinal hernia preponderates in infant life over other ages accords not only with our expectancy but

[10] St. Bartholomew's Hospital Museum, Specimen 2140c.

also with statistics. The subjoined table corroborates this and thus supports the theory that the descent of the testis is largely responsible as an active cause of hernia. I have also appended a table for infant girls on the same lines as that for infant boys, and it shows the great numerical difference between the two sexes in the lessened aggregate and proportionate numbers in herniated females.

TABLE I.—*Showing the Percentages in each Lustrum, of Inguinal Hernia, in Males and Females, at the Time of First Discovery.*

Ages.	Males.	Females.	Ages.	Males.	Females.
0–1	15·22	8·55	46–50	6·56	4·39
1–5	4·32	7·08	51–55	4·61	2·77
6–10	2·86	6·91	56–60	3·65	1·68
11–15	3·71	5·75	61–65	2·15	1·65
16–20	8·88	9·90	66–70	1·21	1·35
21–25	9·67	11·55	71–75	0·43	0·45
26–30	11·10	12·53	76–80	0·21	0·10
31–35	9·08	9·88	81—	0·01	—
36–40	9·30	9·98			
41–45	7·05	5·78		100·0	100·0

TABLE II.—*Showing the Relative Frequency of Right, Left, and Double Inguinal Hernia in Males in Successive Lustra at the Time of First Discovery.*

Ages.	Right.	Left.	Double.
Congenital	2510	822	495
1–5	73	283	87
6–10	483	267	49
11–15	581	347	67
16–20	1518	814	193
21–25	1416	993	296
26–30	1428	1171	327
31–35	1161	984	271
36–40	1215	917	264
41–45	843	710	226
46–50	819	615	196
51–55	609	511	136
56–60	472	329	113
61–65	287	193	64
66–70	179	88	38
71–95	118	61	29
—	15312	9105	2901
—	Total	27318	

TABLE III.—*Showing the Number of Cases of Inguinal Hernia in Females in Successive Lustra, and the Percentages of Right and Left Hernia at the Time of First Discovery.*

Ages.	Right.	Left.	Double.	Percentages. Right.	Percentages. Left.
Congenital	198	154	54	56·0	44·0
1–5	127	99	18	70·0	30·0
6–10	164	107	28	60·0	40·0
11–15	178	94	16	60·0	40·0
16–20	274	169	27	60·0	40·0
21–25	220	251	40	46·7	53·3
26–30	235	238	55	49·9	50·1
31–35	187	193	40	49·9	50·1
36–40	190	204	33	48·2	51·8
41–45	95	135	22	41·0	59·0
46–50	93	73	10	53·0	47·0
51–55	52	58	8	47·0	53·0
56–60	31	39	8	44·3	58·7
61–65	33	37	5	47·0	53·0
66–70	26	26	3	50·0	50·0
71–95	8	16	2	33·3	66·6

Retained, partially descended, and ectopic testes.—Hernia are largely associated with testes which fail to descend to their normal position in the scrotum. Under such conditions they may be completely retained within the abdomen or they may be arrested in their descent within the inguinal canal or in the inguino-scrotal region. They may further be misplaced in regions outside their normal course and may be found in the thigh, perineum, and peno-pubal regions. Ectopic testes may be associated with a hernia, but this is of rare occurrence. If the testes have passed beyond the internal abdominal ring they are usually associated with a hernia, but they may be situated in any abnormal region without such association. In infants under 12 months of age one or both testes may be apparently retained within the canal, but a little traction will suffice to overcome the action of the cremaster muscle and thus enable us to bring them down to their normal position in the scrotum. Their range of locomotion is proportionately in excess of that in adults, and in health they are usually situated high up in the scrotum, being maintained in this position by the vigorous cremaster and dartos muscles.

Instances frequently occur of testes permanently retained in the canal without a hernia. This condition need not engage our attention so long as they are not associated with hernia, but it must be remembered that the two conditions often go together. It is stated, often authoritatively, that retained testes are liable in later years to become the seat of malignant disease. From my own experience in public practice, but especially in private, I believe this statement to be devoid of any foundation in fact, and on reference to the Registrar-General's reports my experience is fully corroborated. The opportunity of collecting any reliable statistics bearing on the frequency of hernia with malposition of the testis is not very ready, but I have no doubt that this non-association is not rare.

Misplaced testes, in which also must be included ectopic testes, though often dependent on different causes, should be classified under the anatomical positions which they occupy, as follows: (*a*) complete retention within the abdomen; (*b*) retention within the inguinal canal; (*c*) placed outside the external abdominal ring; (*d*) situated high up in the scrotum, in the inguino-scrotal region; (*e*) placed in a skin pouch in the cleft between the scrotum and the thigh without any dartos tissue (these are sometimes, though maladroitly, designated "cruro-scrotal testes," for these organs are neither in the thigh nor in the scrotum); and (*f*) ectopic testes placed in unusual positions by the action of an errant gubernaculum in the thigh, perineum, or peno-pubal regions or displaced by a hernia. I have examined the records of patients of whom careful notes have been taken, which reach a total of 7661 males who were the subjects of hernia, and I have not thought it expedient to chronicle a larger number, as the very largeness is apt to bewilder us, and, moreover, it does not ensure greater accuracy or afford us any additional knowledge. Of this number 4310 were situated on the right side, 2812 on the left side, and 539 on both sides. Statistics record that in 174 cases the testes were misplaced in the positions shown in the following table:—

TABLE IV.—*Giving an Analysis of the Different Situations in which Malposed Testes are found.*

Testes.	Right.	Left.	Double.	Total.
1. Completely retained in the abdomen	9	4	3	16
2. In the inguinal canal	24	15	13	52
3. At the mouth of the external abdominal ring; small	43	27	3	73
4. At the mouth of the external ring; testes fully developed	—	1	1	2
5. Ectopic testes	2	—	—	2
6. Cruro-scrotal	2	1	—	3
7. Small testes placed normally in the scrotum	10	1	5	16
8. Malposed testes without hernia	2	8	—	10
	92	57	25	174

It is only in the first four and the last classes that the testes have been arrested in some part of their journey and

have failed to reach their destination in the scrotum. These may be described as *misplaced testes*. Classes 5 and 6 are *displaced testes* by an errant action of the gubernaculum testis; while in Class 7 the testes are small only but are situated normally in the scrotum. With the exception of the last class all the others were associated with hernia and small ill-developed testes. This table shows that in 16 cases the testes were completely retained within the abdomen, nine being on the right side, four on the left, while in three cases both testes were retained. In 52 patients the testes were retained within the inguinal canal and could not be extruded through the external ring; of these 24 were on the right side, 15 on the left, and 13 on both sides at once. In 73 instances the testis was situated immediately outside the external ring, in the inguino-scrotal region, the right side claiming 43 instances, the left side 27, and both sides three examples. In only two instances were fully developed testes placed at the mouth of the external ring, one on the left side and in one case on both sides. The fifth and sixth classes of ectopic testis comprise only five examples, the right side claiming four cases and the left side one instance, while in the double division there is no representative. In 16 cases the testes were small and ill-developed in the scrotum, 10 being on the right side, one on the left, and five on both sides. In 10 cases the testes were malposed, two on the right side and eight on the left side. Probably this number does not correctly represent the relative frequency of misplaced testes, inasmuch as patients would not seek advice for this uncomplicated condition. In every class but one the right side claims the predominance of malposition of the testis, for this side has 92 instances against 57 in the left out of a total number of 149 cases, the proportion being 6 to 4 in favour of the right side. In nearly all cases the testes were small and ill-developed, most being soft and flattened and frequently more tender and more highly sensitive than fully-developed organs. During operations I have frequently found that testes retained in the canal are relatively larger than those situated outside the canal or in the inguino-scrotal region. This suggests that the retention within the canal is due to those organs being too large to pass through the outer ring.

[Mr. Langton proceeded to discuss the crural and perineal forms of displaced testis and he showed that in both varieties the right side of the body is much more frequently affected than the left; either of these displaced testes may be associated with a hernia. He then proceeded:]

In hermaphrodites, or in those whose sex is doubtful, who are, however, mostly males, we occasionally come across cases of inguinal hernia on one or both sides associated with bodies usually irreducible in the situation of the external ring. The nature of these bodies although inferred cannot be considered proven unless examined microscopically.

It must not be assumed that all misplaced testes are associated with hernia, though this is usually so, but the hernia may be first noticed many years subsequently to the first discovery of the arrested organ. It is impossible to determine the first occurrence of the hernia, and I have therefore limited my statistics to definite data so as not to place too implicit a reliance on the inexact statements of patients.

CONGENITAL HERNIÆ.

Most patients with misplaced testes become at one time or another the subjects of hernia, but there are many whose testes are fully developed in the scrotum in whom the complete occlusion of the processus vaginalis has altogether failed or failed in part. Under these circumstances an extension may occur into this abnormal vaginal process, so that the hernia becomes associated with the testes which may be completely or incompletely developed.

Herniæ may have their origin at birth and they may occur at any age of life for the first time. It is therefore more accurate to classify these varieties of hernia according to their anatomical relations with the vaginal process of the peritoneum. These should all be classified under the general heading of congenital hernia but made up of the following varieties: 1. Herniæ into the cavity of the tunica vaginalis testis which strictly includes the majority of so-called interstitial herniæ. 2. Herniæ into the funicular process which descend into the enclosed funicular process of the vaginal peritoneum. 3. Herniæ into a post tunica vaginal sac, commonly known as infantile herniæ, in which the protrusion is situated behind a dilated tunica vaginalis extending as high as the internal abdominal ring. In this class are included also the encysted herniæ which push before them an invaginated membranous septum into the cavity of an unclosed tunica vaginalis testis. These herniæ are all associated with some anomaly in the closure of the vaginal process.

Hernia into the cavity of the tunica vaginalis testis is one of the most common varieties of congenital hernia and may occur for the first time at any period of life, from birth to extreme old age. In infants under the age of 12 months the position of the hernia can only be conjectured, for an exact diagnosis can only be made on dissection or operation. Protrusions in children usually consist of intestine, since the omentum is so ill-developed that it is rarely able to descend into the sac. Personally, however, I have little doubt that in nearly all cases of hernia in children under six months of age the hernia is into the cavity of the tunica vaginalis testis. At a later period of life, when the protrusion descends into the scrotum, it surrounds the testis as completely as does the fluid of an ordinary vaginal hydrocele. Under these circumstances the hernia forms a globular swelling within which the testis lies imbedded, so that it cannot be detected until the intestine or omentum has been reduced, the testis often being small and ill-developed. The scrotal tumour in these cases is so characteristic that the diagnosis is made without difficulty. The reduction of the hernia is often difficult and attended with a sickening pain and some faintness, partly due to reduction through a narrow fibrous neck and in part to the pain caused by the manipulation of a sensitive ill-developed testis.

The following table has been drawn up recording the percentages of hernia into the cavity of the tunica vaginalis at the time of the patient's first application for relief, arranged in quinquennial periods of life on the right and left sides respectively. In this table no hernia has been included unless it fulfils all the clinical features of this variety of congenital hernia. There is little doubt that the percentage of congenital hernia in early infancy would be largely increased if the table represented the ages at which the hernia was first discovered. No such table, however, would be accurate, inasmuch as it would be a record of patients' statements of the first appearance of the hernia.

TABLE V.—*Giving the Percentages of Cases of Hernia into the Tunica Vaginalis Testis, as they occur on each side in the various Quinquennial Periods of Life.*

Ages.	Right.	Left.	Ages.	Right.	Left.
0—1	2·3	2·4	31—35	1·3	1·0
1—5	3·6	4·4	36—40	0·67	0·81
6—10	8·3	10·0	41—45	0·38	0·42
11—15	9·4	8·5	46—50	0·20	0·25
16—20	17·2	16·0	51—55	0·47	0·40
21—25	4·08	3·06	56—60	0·53	0·17
26—30	1·1	1·2			

Reference to these tables shows that this variety of congenital hernia takes place at every age, although, as might be expected, it gradually decreases as age advances. It is observed that the percentage rapidly increases from birth till the lustrum of 16 to 20 years, after which it rapidly declines, so that at 60 years of age the percentage is as low as 0·75 of the total number. It is not improbable that the numbers of the later periods of life are recrudescences of this disease in early life, and it is probable that the occurrences of this disease in later life are only reappearances of an earlier lesion. Hernia into the cavity of the tunica vaginalis testis is nearly equal on the two sides throughout life, the proportion being 49·58 per cent. on the right side and 48·60 per cent. on the left side. Out of a total number of 8342 cases of right inguinal hernia 227 were examples of the first form of congenital hernia, and of 5263 patients the subjects of left inguinal hernia 125 were instances of congenital hernia, or in the proportion of nine cases on the right side to eight on the left. The importance of the recognition of this variety of hernia is not inconsiderable as the probability of the obliteration of the vaginal process is not hopeful, and especially so in the unclosed canal of Nuck. Often the hernia appears to be cured, especially when the patient is under puberty, but the cure is only apparent and due to the narrowing of the serous canal to such an extent as to prevent the descent of any hernia but not to real obliteration.

In operating on these cases in later life I have often observed this stenosis of the canal with the existence of hernia or of fluid—indeed, the communication is so narrow

as barely to admit the passing of a probe, but it may become so enlarged as to allow the descent of a considerable amount of intestine or omentum. I believe that in many instances no real obliteration ensues from the wearing of trusses and that patency exists throughout life without hernia. A case bearing this out occurred in the practice of Mr. Stanley in 1859 at St. Bartholomew's Hospital on the removal of a malignant testis from a young man. During the operation the vaginal process was ascertained to be patent, so as easily to allow the passage of the forefinger into the general peritoneal cavity. Prior to the operation the patient had never been the subject of hernia, nor was he even after his discharge from the hospital. This case demonstrates that other factors of hernia exist above a patent canal and an unduly large abdominal ring. One potent factor is the elongated mesentery. It is not an unusual history that hernia takes place suddenly for the first time and of considerable size when patients are in ill-health or recovering from a long illness. The herniæ under these circumstances are large, inasmuch as the sac is of congenital origin and capable of receiving a considerable amount of intestine.

Hernia in this variety of congenital patency easily becomes strangulated and often consists solely of intestine. The prognosis is serious, as the constriction is severe at the inner ring, and often there is no omentum to act as a buffer at the seat of strangulation. Hospital records show conclusively that strangulated congenital hernia entails much greater risks than are entailed in ordinary acquired hernia.

In early infant life, before any curative operation is admissible, the only course to adopt for the treatment consists in the application of some retentive support, and it may be stated that in the large majority of cases the prognosis is good. Whether the canal is permanently closed and becomes converted into a fibrous cord we have no means of knowing, but we often see in later life that the tube is still patent. The presence of fluid in the sac, passing to and fro from the peritoneal cavity, renders the outlook much less satisfactory than if the protrusion is only intestine or omentum. Should this condition exist an operation for the cure should be strongly recommended as soon as practicable and the results of such operations are eminently satisfactory. Two of the reasons strongly urged for the radical cure are the pain and the inconvenience inflicted on these little patients from wearing trusses.

In this and in the funicular form of congenital hernia I have usually observed that the constituents of the chord are more intimately adherent to the sac than in ordinary acquired hernia and the danger to the vas deferens is thus correspondingly increased. The walls of the sac are usually very thin and diaphanous.

In ectopion vesicæ it is very common to find in association with the exstrophy of the bladder both testes retained in the inguinal canal with herniæ into their unclosed sacs. I have seen six cases of this anomaly and all were the subjects of congenital hernia. These were all subjected to operation for the relief of the exstrophy, and on presenting themselves some time afterwards I ascertained that in four of them the testes had descended into the scrotum. In two the hernia still existed, while in the other two the hernia was cured.

Herniæ into the funicular process are often met with but their diagnosis presents greater difficulties than do those of the preceding variety as there are no anatomical conditions on which we can rely. A well-marked example is usually very characteristic; for its elongated sausage shape, its uniform calibre throughout in a line with the axis of the chord, passing down to the upper border of the testis, from which, however, it is separated by a longer or shorter constriction—all proclaim the congenital nature of the extrusion. All, however, do not possess these definite characters.

Birkett has accurately demonstrated the nature of funicular hernia and is of opinion that most of the extrusions occurring in infancy and early life are of this variety. This opinion can only be conjectured, as dissection alone can demonstrate its accuracy, but I have a strong opinion that funicular hernia is more common than is usually believed. The proportion of hernia into the cavity of the tunica vaginalis testis and into the funicular process is represented by one in every 29 cases, or 3½ per cent. of all cases of inguinal hernia.

Though funicular herniæ are not so liable to strangulation and are reduced with greater ease than are those into the cavity of the tunica vaginalis, they are retained by instrumental support with greater uncertainty. The difficulty of retaining funicular hernia by means of trusses is a cogent reason for recommending the operation for the radical cure, and, as in the operation for the first variety of congenital hernia, the results are most satisfactory. The nature of funicular hernia was recognised by Camper, Hunter, and others.[11]

The third variety of congenital hernia is the infantile hernia, which is not so rare as is commonly supposed, for MacEwen, Wright, and other writers have described instances, the first named not fewer than five. I have only operated in a single instance, and the nature of the protrusion was not recognised before operation and this appears to be the experience of others. Attention has already been drawn to this variety in my anatomical description, describing three forms: the first in which the hernia lies behind the chord and the testis; the second in which the hernia bulges the posterior wall of the vaginal cavity forwards; and the third which invaginates from above a sac into the enclosed tunica vaginalis testis. This variety is denied by some authors, but the plate in Astley Cooper's work by Forster appears as an example of this rare form. In the earlier part of my lecture I described at some length and showed the specimen of a young man with an encysted hernia and there are to my mind examples of encysted hernia in other London museums. The appearance of these invaginated sacs bears no likeness to the first and second varieties of infantile hernia, for the walls are thin and fibrous, with no evidence of the plica vascularis, and there is an epithelial lining making the interior of the sac smooth and secerning.

There is yet another example of congenital hernia which strictly should be included in the first variety as the hernia lies in the cavity of the tunica vaginalis testis. As it has, however, characters distinct from this variety it may well be placed in a class of its own, as it is associated with a misplaced, ill-developed testis. This hernia is called "interstitial hernia," and is one of the rarer yet most interesting of the congenital protrusions. It has received many names, as "interstitial," "inter-muscular," "ascending," "intra-parietal," "inter-parietal," "pro-peritoneal," and "hernia en-bissac" by French authors. Many of these appellations are unfortunate, as they fail to convey an accurate description of the relations of the hernia to the abdominal walls, but the least satisfactory is that of "pro-peritoneal," for it gives no clue to the position of the hernia to the abdominal walls. I have therefore retained the term "interstitial" as if not affording much information it is not incorrect as to the structural relations.

Interstitial hernia is primarily situated within the abdominal muscular walls, usually in the patent vaginal process, within which is placed an ill-developed testis. In only two instances were the testes normally developed in the scrotum. I have appended the notes of 42 cases of interstitial hernia in males 35 being on the right side, five on the left, and two on both sides. The positions of the testes vary within large limits, but by far the larger number were retained within the inguinal canal.

TABLE VI.—*Showing the Position of the Testes in Interstitial Hernia.*

Testes.	Right.	Left.	Double.	Total.
In the scrotum	2	—	—	2
High up in the scrotum ...	2	—	—	2
Outside the external abdominal ring	1	2	1	4
In the inguinal canal	26	3	1	30
In Scarpa's triangle	1	—	—	1
Not stated	3	—	—	3
	35	5	2	42

This number of interstitial herniæ was recorded out of a total number of nearly 50,000 cases, making the proportion of one case to 1100 cases. This table shows that the testes in two instances were situated high up in the scrotum; in four these organs were placed immediately outside the external ring; in 30 the testes were retained within the canal; one was in the centre of Scarpa's triangle, while in three cases the position of the testes was not recorded. In nearly all the

[11] Camper: Icones Herniarum, Tab. x., Fig. 3. Works of Hunter by Palmer, Plates xxv. and xxvi. W. Lawrence: Treatise on Ruptures, fifth edition, 1838, p. 564. Scarpa: Wishart's translation, Memoir II, Section 10.

corresponding half of the scrotum was not developed or absent, for in 34 cases the scrotum on that side was absent, moderately developed in three instances, and fully developed in two patients. When the testis lies immediately outside the ring it has been extruded by an advancing hernia and certainly so in the solitary instance in which the testis and hernia were found in Scarpa's triangle. The arrest of the testis when outside the external ring is caused by the dense fibrous tissue which prevents any further descent.

In interstitial hernia there is not infrequently extruded one or more pouches of peritoneal sac through the outer ring. If there is only a single pouch the testis lies within the canal and the pouch is occupied by fluid or intestine; but if there are more, then the testis lies in one of them. In 75 per cent. the testis remains in its original position in the canal, where it usually attains a higher degree of development than when extruded through the outer ring. Its retention in this original position is most likely due to its large size, which prevents its extrusion. If the testis is situated high up in the canal and in the posterior part of the sac it remains in this position, but when it is placed lower down it is often pushed through the ring. If retained within the canal the testis is less tender than if placed outside the canal.

Herniæ of the interstitial form are usually confined to the dilated inguinal canal, but if they do pass beyond it it is only for a short distance, and some cases have been described in which the hernial sac has passed into the scrotum, leaving the testis still in the canal. Occasionally the external ring is split up for an inch or more, in which case both testis and hernia are extruded through the gap in the external oblique aponeurosis. The corresponding half of the scrotum is mostly ill-developed or absent. The protrusion as it enlarges cannot emerge through the outer ring in consequence of the denseness of the fascia, and thus it expands the canal in the direction of least resistance, so that the sac may present two or more dilatations.

Interstitial herniæ are classified according to the direction which the protrusion takes after its passage through the inner ring. 1. The hernia may ascend and separate the aponeurosis of the external oblique from the muscular internal oblique. This is the most common variety and is called the "interparietal" or "intermuscular" form. 2. The hernia may split the aponeurosis of the external oblique from the outer ring to a variable distance, or it may pass through the external ring and take various directions. The hernia thus lies in front of the aponeurosis of the external oblique, between it and the deep fascia. This is the preparietal or pre-aponeurotic variety. 3. The hernia may pass between the abdominal peritoneum and the fascia transversalis lying in the subperitoneal fascia, whence it may extend in different directions. This is the post-parietal or post-muscular variety.

FIG. 6.

Interstitial hernia: St. Bartholomew's Hospital museum. Specimen 2157a.

The directions into which this form of hernia may extend are: (*a*) downwards and backwards towards the iliac fossa, where it rests on the iliac fascia—hernia inguinalis supra iliaca; (*b*) downwards and inwards towards the horizontal ramus of the os pubis, where it lies in front of the bladder—hernia inguinalis ante-vesicalis; and (*c*) virtually upwards for some distance towards the umbilicus—hernia inguinalis ascendens. 4. The hernia may protrude to a limited extent beyond the outer ring with or without the testis and then pass into the scrotal, inguino-scrotal, or crural regions. To these varieties the names "scrotal," "inguino-scrotal," and "crural" interstitial hernia have been given.

FIG. 7.

Interstitial hernia: two accessory pouches, the upper pouch containing intestine, the lower containing the testis.

Interstitial hernia may be discovered for the first time at any age, although the conditions necessary for its existence must have been congenital. There can be little doubt that this protrusion has occurred years prior to its discovery, so that the statements by the patients are not to be relied upon. Of the 42 cases of interstitial hernia I find that in nearly 45 per cent. the age at the first discovery of the hernia was under one year, 16 per cent. between one year and 20 years, 29 per cent. occurred between 21 and 40 years of age, 5 per cent. between 41 and 60 years, and 5 per cent. between the ages of 61 and 80 years.

TABLE VII.—*Showing the Age at the first Discovery of Interstitial Hernia.*

Age-periods.	Cases.
Under 1 year of age	19
Between 1 year and 20 years	7
Between 21 and 40 years	12
Between 41 and 60 years	2
Between 61 and 80 years	2
Total	42

The frequency of the occurrence of interstitial hernia in the earlier periods of life affords proof of some congenital defect in the position of the testes and probably also in the later years of life, as in nearly all the cases the testes were ill-developed in the inguinal canal. Interstitial hernia cannot be considered common in comparison with the total number of ruptured males, seeing that out of 49,390 patients from January, 1889, to November, 1900, only 42 were the subjects of interstitial hernia, or one in 1175 cases.

Incidentally I may draw attention to the comparative frequency of interstitial or quasi-interstitial hernia in women, for these herniæ present many differences from those prevailing in men. Our records show that 18 cases occurred out of 13,583 female patients, so that the proportion is one in 760 patients, or nearly twice as frequent as in males. These herniæ in women are often of great size, and in one patient, 47 years of age, the protrusion—preparietal—extended as high as the right costal margin above to the linea alba

on its inner side, and overhung the thigh for a considerable distance. It measured 11 inches in its transverse and seven inches in its vertical diameter and was irreducible. In one patient an oval, hard body was felt in the upper part of the sac after reduction of the enterocele, of the size and shape of an ovary. Of the 18 cases, two only were noticed at birth, eight between the ages of 21 and 40 years, four between 41 and 60 years of age, and three between 60 and 70 years of age, while in one patient the first occurrence of the hernia was doubtful.

The causes of interstitial hernia in women are probably due to distension of the abdominal muscles during pregnancy, for most of them were mothers of large families.

The treatment of interstitial hernia in males is neither scientific nor satisfactory, for the pressure of a truss is mainly directed to covering the hernia and in most instances is unable to effect complete retention. As a rule, the deviated testes accommodate themselves under the truss without much inconvenience to the patient if the truss is properly adjusted. The testis may safely be left to take care of itself. Operative measures for the reduction and cure of the hernia are often attended with difficulty, as the separation of such an extent of the abdominal muscles renders the complete approximation of the parietes almost impracticable. The size of the hernia is so great that the abdominal cavity is unable to receive such a large accession of viscera, so that the question of an enterectomy must be considered to allow of the complete reduction of the extruded mass.

THE CAUSATION, PREVENTION, AND TREATMENT OF POST-PARTUM HÆMORRHAGE.[1]

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THE subject of our discussion this evening must always be one of great interest to medical practitioners. The appalling suddenness of the accident and the great risk to life entailed upon the patient render it a matter for congratulation that cases of post-partum hæmorrhage are not met with more frequently and that its occurrence can usually be avoided by proper prophylactic treatment.

In the University College Hospital maternity department during the period from August 1st, 1893, to Dec. 1st, 1900, 15,130 women have been delivered. Of this number 139, or one in 108, have suffered from some degree of post-partum hæmorrhage. In 100 of these cases, or one in 151, the amount of blood lost was not very excessive and did not cause any marked symptoms; in 31 of the cases, or one in 488, the loss was considerable and was accompanied by marked symptoms; while in eight instances, or one in 1881, the patient's life was endangered, two of these cases ending fatally—a mortality of one death in 7565 deliveries. Amongst 20,378 confinements in the Charité Hospital in Berlin only two deaths occurred from post-partum hæmorrhage—a mortality of one in 10,189. Veit,[2] who has collected a large number of statistics in addition to these, found amongst 47,065 labours only five deaths from atonic post-partum hæmorrhage—a proportion of one in 9413 confinements. Although the death-rate from post-partum hæmorrhage is therefore relatively small, yet the total number of fatal cases must be considerable. Dührssen[3] states that 300 women die annually in Prussia from this cause, while the frequency of cases causing severe symptoms—viz., one in every 488 confinements in the University College Hospital maternity department—renders this accident of labour one of much importance.

I propose to discuss post-partum hæmorrhage under the three headings of Causation, Prevention, and Treatment, and to confine my remarks to the variety due to atony of the uterus.

Before passing on to consider its causation I may just remind you of a few facts concerning the mechanism of the third stage of labour. The anatomical studies of Barbour,[4] Pinard, and Varnier[5] have demonstrated that at the end of the second stage of labour the placenta is still completely attached to the uterine wall. Separation of the placenta begins with the third stage of labour and is due to the contraction and retraction of the uterine muscle. It is this latter property of active retraction—or what may be termed the tonicity—of the muscle which prevents the occurrence of hæmorrhage when the utero-placental vessels are torn through during the separation of the placenta. The absence or inhibition of this power of retraction is the chief cause of post-partum hæmorrhage, giving rise as it does to atony of the uterus or inertia uteri. It is because the retraction of the uterine muscle is prevented by the presence of the fœtus in utero that premature separation of the placenta is so often accompanied by severe hæmorrhage.

CAUSATION.

The causes of post-partum hæmorrhage are, therefore, to be sought in the conditions giving rise to uterine inertia. These may, for convenience of discussion, be classified as follows:—

1. Feebleness, exhaustion, or malnutrition of the patient. This may be due to the condition of chronic starvation so common amongst the London poor, or to the occurrence of ante partum hæmorrhage, or it may be the result of some disease complicating the labour, such as grave heart disease.[6] The great danger of even a slight degree of post-partum hæmorrhage in cases of severe ante-partum hæmorrhage is well known. Ord[7] has shown that labour complicated by myxœdema is very likely to be followed by hæmorrhage. Albuminuria is often asserted to favour the occurrence of post-partum hæmorrhage. This is not borne out by our experience, and its influence in causing this complication of labour is denied by Pinard.

2. Over-distension of the uterus and undue stretching of the uterine muscle such as occurs in cases of hydramnios or multiple pregnancies. Unstriped muscle if stimulated to contract passes into a condition of exhaustion more rapidly when stretched by means of a weight than when it is not so stretched.

3. Exhaustion of the uterine muscle from frequent child-bearing and prolonged labour. One of the commonest causes of post-partum hæmorrhage is the application of forceps and the delivery of the child when pains are absent and the uterus is exhausted and in a condition of secondary uterine inertia—the so-called "temporary passiveness" of Braxton Hicks.[8]

4. Pathological conditions of the uterine wall. The presence of fibroid tumours is especially liable to cause post-partum bleeding if the placenta be attached over the site of the tumour. Marked fatty degeneration of the uterine muscle has been described by Bossi[9] in three cases of pregnancy, and he thinks that this may possibly be a cause of inertia in some instances. Fritsch[10] has called attention to cases of uterine atony due to septic infection occurring during labour, the paralysis of the uterine muscle being analogous to that of the intestinal muscle seen so commonly in cases of septicæmia.

5. Some mechanical hindrance to the contraction and retraction of the uterus, such as the retention of the placenta in utero or the presence of adhesions between the uterus and surrounding structures. Grailly Hewitt[11] described a fatal case apparently due to this latter cause, and in 102 cases of labour following the operation of ventro-fixation of the uterus Negri[12] found five cases of severe post-partum hæmorrhage due to the adhesions present—a proportion of one in 20, much above the average.

6. Too rapid emptying of the uterus, either by the application of forceps or after version. If the child be rapidly extracted after version in cases of placenta prævia with a rigid cervix tears extending through the placental site in the lower uterine segment are very likely to occur and dangerous hæmorrhage to ensue.

7. Extreme nervous depression and shock such as may

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[1] A paper read at the opening of a discussion upon post-partum hæmorrhage at a meeting of the North London Medico-Chirurgical Society, Dec. 13th, 1900.

[2] Zeitschrift für Geburtshülfe und Gynäkologie, 1894.

[3] Sammlung klinischer Vorträge, Volkmann, 347 (Gynäkologie, No. 100).

[4] Atlas of the Anatomy of Labour.

[5] Études d'Anatomie Obstétricale, 1892.

[6] Vinay: Maladies de la Grossesse.

[7] Allbutt's System of Medicine, vol. iv.

[8] Transactions of the Obstetrical Society of London, vol. ix., p. 207.

[9] Annali di Ostetricia e Ginecologia, December, 1896.

[10] Handbuch der Geburtshülfe (Müller), Band iii.

[11] Transactions of the Obstetrical Society of London, vol. xi.

[12] Annali di Ostetricia e Ginecologia, August, 1896.

follow the birth of a dead child may account for uterine atony in some cases. That such a mental condition should cause hæmorrhage is not surprising when we remember how frequently irregular cardiac action and vaso-dilatation are produced by various emotions.

8. The administration of chloroform has often been regarded as a cause of uterine inertia. That chloroform gives rise to post-partum hæmorrhage is probably not true, but that its administration has some effect upon the pains is easy to determine clinically and is proved by the observations of Pinard[13] and Westermark.[14] The last-named observer finds that chloroform when given to the obstetrical degree lengthens the intervals between the pains, diminishes the frequency of the pains, and causes the individual contractions to begin more suddenly and pass off more rapidly. When given to the surgical degree it produces the same results but to a more marked extent. Pinard found that chloroform prolonged the intervals between the pains, while it diminished the severity and power of the pains, and he concluded that it affected the power of retraction of the uterine muscle rather than its power of contraction.

9. Another possible cause of excessive bleeding after delivery is deficient coagulability of the blood. Such a condition occurs in cases of septic infection and hæmophilia. The latter disease is possibly more often suspected than actually met with, but the cases recorded by Kehrer[15] show how dangerous a complication of pregnancy and labour it may be.

PREVENTION.

In discussing the preventive treatment of post-partum hæmorrhage it is necessary to consider the treatment of the patient during pregnancy and during labour. It is important that all patients should enter upon labour in as favourable a condition of health as possible. Attention must therefore be paid to the general health in all cases where this may be necessary. If the patient has lost excessively at her previous confinements small doses of ergot and strychnine combined with iron or hydrochloric acid may be given during the last month or so of pregnancy, as recommended by Dr. Lombe Atthill.[16] Women with a history of hæmophilia should be given[17] calcium chloride in 10 grain doses three or four times a day for the last two or three weeks preceding delivery. Although, as we have seen, it is very doubtful whether albuminuria *per se* is a cause of post-partum flooding, yet for obvious reasons it must be treated and the patient should be placed upon a strict milk diet. The great value and importance of preventive treatment is well exemplified by Spiegelberg's statement. He writes: "I certainly do not exaggerate when I say that severe post-partum hæmorrhage is almost without exception the fault of the attendant."[18]

In no less than 50 of the 139 cases occurring in the University College Hospital maternity department the child was born before any assistance arrived. In six out of the eight severe cases this happened, including the two cases in which the women died. It is, unfortunately, a common practice amongst the patients in this department to postpone sending for assistance until as late as possible so as to avoid the necessity of being examined. How dangerous a custom this is the facts I have mentioned show, and in all probability one of the two women who died lost her life as a result of this practice. The details of these two cases are shortly as follows.

CASE 1.—A woman sent up to the hospital for attendance at 9 P.M. on August 3rd, 1895. When she was seen slight pains were occurring every half hour. The membranes were unruptured and the internal os was of the size of a sixpenny piece. The pulse was normal. The patient was anæmic and feeble. At 10.30 P.M., as the conditions of the cervix had remained the same, she was left and instructions were given to send up again when the pains became more frequent. Between 4 and 5 A.M. on August 4th the husband came up to the hospital and said that the child was born. On the arrival of the student in attendance the patient was found to be dead. The bed was soaked with blood. The child was born and was alive; the placenta was retained partly in the uterus and partly in the vagina. The uterus was enormously distended and contained large quantities of blood and blood-clot. The pains had continued very feeble until just before the end, when with three or four very strong pains the child was born. The sister of the patient was the only person present at the time. All attempts at resuscitation completely failed.

CASE 2.—A woman sent up to the hospital on August 28th, 1897, two and a half hours after the birth of her child, for assistance on account of severe flooding. On the arrival of the medical attendant the patient was found to be cold, extremely blanched, pulseless, and speechless. The placenta, retained and only partially separated, was removed by the hand. There had been very severe post-partum hæmorrhage which had, however, ceased. The patient was given hypodermic injections of ether and three pints of water and two ounces of brandy were injected into the rectum. She rallied a little but died just after intravenous transfusion had been commenced.

The prevention of post-partum hæmorrhage is of even greater importance than its treatment, and it may with truth be said that the skill of an accoucheur can be estimated by the number of such cases that occur in his practice. During labour it is often good treatment to rupture the membranes, even before the cervix is fully dilated, in cases where we fear the occurrence of hæmorrhage after delivery. During the second stage of labour care must be taken not to allow the uterus to become exhausted and to recognise as early as possible conditions likely to cause obstructed labour. When the uterus is in a condition of secondary inertia the mistake of delivering with forceps must be avoided and the case treated by opium and rest, while in cases of obstructed labour the necessary measures must be at once adopted to overcome the obstruction. When towards the end of the second stage the pains are feeble and no progress is being made ergot in doses of from half a drachm to one drachm of the liquor ergotæ ammoniatus may be given, if it is perfectly certain that the labour is an absolutely normal one. The practice of giving ergot before the birth of the child is undoubtedly in certain cases a very valuable one and it is regarded at the present time with more disfavour than it deserves. This method is especially applicable in cases where deep anæsthesia is necessary in order to complete delivery.

It is, however, in the proper management of the third stage of labour that the secret of preventing post-partum hæmorrhage lies. Too often it occurs as a sequel of hasty and premature attempts to express the placenta, with the result that a portion of the placenta or membranes is left in utero. A sufficient amount of time must be allowed to elapse to permit of proper separation of the placenta, and under ordinary circumstances no attempt should be made to express it until from 20 to 30 minutes after the completion of the second stage of labour. From the time the child is born until the placenta is expelled one hand should be kept continuously upon the uterus. The dorsal position has many advantages during the third stage of labour, but in cases where bleeding occurs the necessary manipulations are most readily carried out with the patient on her side.

At the end of the second stage the fundus of the contracted uterus is usually at the level of the umbilicus. Towards the end of the third stage it will be found to have ascended until it lies from one and a half to two inches above the umbilicus.[19] This indicates that the placenta has been separated and expelled from the upper uterine segment into the lower uterine segment and that it is in a condition in which it can be easily expressed.

It is more particularly in cases where it is necessary to revive an asphyxiated child, or where the medical attendant's attention is directed away from the mother, that severe post-partum hæmorrhage is likely to occur. It is impossible for a uterus to relax completely unperceived if it be watched with the hand during the whole of the third stage of labour. In any case where hæmorrhage has occurred or where the uterus shows a tendency to again relax it must be carefully supervised until it is certain that contraction and retraction are complete and permanent.

TREATMENT.

When post-partum hæmorrhage does occur the medical man must have a plan of treatment ready and be able to carry it out rapidly and efficiently. Personally, I do not consider that I am doing justice to my patient or to myself unless I have ready at hand the few appliances necessary to enable me to deal with such a complication should it arise.

The best method of treating a case of severe hæmorrhage

[13] De l'Action Comparée du Chloroform, &c., Paris Thesis, 1877.
[14] Archiv fur Gynäkologie, Band lxi., 1, 1900.
[15] Ibid., Band x., 1876.
[16] Brit. Med. Jour., March 3rd, 1897.
[17] A. E. Wright: Brit. Med. Jour., July 28th, 1883.
[18] Text-book of Midwifery, vol. ii., p. 228.
[19] Varnier: La Pratique des Accouchements, p. 250.

will depend upon whether the placenta is still in utero or not. The ordinary treatment may be outlined as follows. If the placenta be retained it must be at once expressed, or if this is found impossible removed by the hand. A hypodermic injection of ergotin if ready may be given and the uterus kneaded through the abdominal wall while the nurse is ordered to prepare a hot douche. If the hæmorrhage be profuse and the uterus does not respond to the kneading bimanual compression may be carried out until the douche is ready. In the small number of cases where the hot douche fails to excite any uterine contractions and the tone of the muscle is entirely lost recourse must be had to continued bimanual compression, to plugging the uterus with gauze, or to the application of some styptic, such as perchloride of iron, to produce clotting of the blood in the vessels.

We may now consider these various methods of treatment rather more in detail.

It is impossible for the uterus to contract and retract while the placenta is still in utero, and therefore its removal must be undertaken before any attempts are made to excite uterine contractions. Whenever possible this should be effected without the introduction of the hand into the uterus. No time, however, must be lost if expression fails, and when necessary the hand must be passed into the uterus and the placenta and all blood-clot removed. The introduction of the hand has the advantage that it is a powerful excitant of uterine action. Ergot takes too long a time to act to be of much value in the treatment of a case of severe bleeding. In all cases where it is ready a hypodermic injection of ergotin may be given so that the assistance of its action may be obtained in rendering permanent the uterine contraction and retraction procured by other more speedy methods of treatment. In the less severe cases kneading the uterus is often all that is required to excite contractions and to arrest the bleeding. In the more severe cases this is not sufficient and in these a hot douche must be given.

There are several important details to be observed in employing this form of treatment. The water must be used in large quantities and at a temperature of not less than from 117° to 120°F. The uterine tube should be carried into the uterus up to the fundus and the whole of the inner surface of the organ irrigated by the fluid. This is rendered more easy and at the same time the hæmorrhage may be to some extent checked if the uterus be drawn down to the vulva with a vulsellum. This method of drawing down the uterus is at times alone sufficient to arrest the bleeding no doubt by the kinking and compression of the uterine arteries which it causes.[20] Some antiseptic may be used in the water, such as creoline or iodine, but plain hot water will do perfectly well in an urgent case.

Bimanual compression of the uterus is the best method to employ when the hot douche is not immediately available or where it fails to excite uterine contractions. The uterus seized by the hand on the abdomen is compressed against the anterior abdominal wall, the posterior surface of the symphysis pubis, and the other hand placed in the anterior vaginal fornix. The pressure should be exerted as far as possible upon the placental site; no great force is required and it can be continued for a considerable length of time, although at the cost of a good deal of fatigue on the part of the attendant. The chief objection to this method is the difficulty sometimes experienced in grasping the completely relaxed uterus between the two hands. Whether the fist or the extended hand be introduced into the vagina is a matter of indifference so long as the anterior and posterior walls of the uterus are kept firmly in contact. All the 139 cases of hæmorrhage occurring in the University College Hospital maternity department were treated by the hot douche or bimanual compression. In no case near full term was the uterus plugged with gauze or injected with styptics.

As a routine means of treatment plugging the uterus is certainly inferior to bimanual compression. There are, however, two classes of cases in which the latter method is specially indicated—viz., where the uterus is prevented from contracting and retracting by the presence of adhesions or by the existence of fibroid tumours in its wall. Schauta[21] has suggested that in some severe cases of hæmorrhage the uterine vessels are atheromatous, and in any instance where this condition is suspected gauze-plugging would no doubt be the best treatment. Schmit[22] has recorded a case of this kind in which the patient died from uncontrollable hæmorrhage, although the uterus after plugging had failed was ultimately removed in an endeavour to arrest the bleeding. On microscopic examination well-marked hyaline degeneration of the vessels at the placental site was found. Plugging the uterus may be carried out in the following way. The uterus is drawn down to the vulva with a vulsellum—a manœuvre which has the advantage of assisting to arrest the hæmorrhage—or is pushed down by pressure through the abdomen. The left hand is introduced up to the fundus and all blood-clot removed. The strips of gauze or of any other available material wrung out of an antiseptic lotion are passed into the uterus under cover of the fingers of the left hand by means of a pair of uterine dressing-forceps or the intra-uterine douche-tube, and the cavity firmly and completely packed from above down. Special care must be taken that no space in which blood could accumulate is left between the fundus and the gauze. In bad cases the vagina should also be plugged. A large pad of wool may then be placed over the vulva and a binder and T bandage applied with considerable pressure. The plug is taken out at the end of from 18 to 24 hours. If hæmorrhage continues the plug must be removed, the uterus washed out, and then replugged.

Since 1893 there has not been any case of post-partum hæmorrhage alone in the maternity department of University College Hospital in which plugging the uterus has been required. This method has, however, been frequently employed for hæmorrhage after abortions and other conditions and is of great value in the treatment of some cases of rupture of the uterus.[23]

The last mode of treatment I have to mention is the application of powerful styptics to the interior of the uterus, a method which at the present day is almost superseded by gauze-plugging. The drug most commonly used is the liquor ferri perchloridi fortior of the strength of one part to three parts of water.[24] It may be injected into the uterus by means of a tube, or the interior of the organ may be washed out with a sponge or wool dipped in the solution. It is undoubtedly a most efficient means of producing thrombosis, but its dangers outweigh its advantages. It is extremely likely to produce sloughing, septic thrombosis, and general septic infection. Turpentine and vinegar may also be employed in the same way.

In cases where the hæmorrhage has been successfully arrested but where the loss has been excessive the condition of the patient is usually very grave, and energetic after-treatment is required if her life is to be saved. The greatest reliance is to be placed in the treatment of such cases on the hypodermic injection of strychnine, ether, and digitalin. Ether may be injected in doses of 10 minims every 10 or 15 minutes until five or six doses have been given. Where cardiac failure is very marked hot water or normal saline solution should be injected. The former may be given by the rectum, the latter may be injected under the skin or into a vein. In severe hæmorrhage the most valuable of these methods is venous transfusion. Infusion of hot water or saline fluid has been carried out in 10 of our cases—five times by the rectum, four times into a vein, and once into the sub-mammary connective tissue. The amount of fluid employed varied from one to five and a half pints. One patient was transfused twice, three pints being introduced into one arm and two and a half pints into the other.

Rectal injections of hot water with or without brandy are of great value in cases where the circulation is not too feeble. They act as a powerful stimulant and in such cases the fluid is no doubt absorbed. In cases of severe hæmorrhage accompanied by a very feeble action of the heart it is quite certain that no absorption occurs either from the stomach or bowel. In such cases venous transfusion must be carried out and gives exceedingly good results. My experience of subcutaneous transfusion in cases of septic infection and other conditions leads me to regard it as too slow a method to use in cases of hæmorrhage. Common salt can be obtained in any household, but it is best to carry it as chemically pure sodium chloride or as a concentrated solution in a sealed glass tube. The solution employed should contain one drachm of salt to the pint, and must have a temperature of

[20] Arendt: Therapeutische Monatshefte, January, 1898.
[21] Medical Press and Circular, May, 1895.
[22] Centralblatt für Gynäkologie, 1899, No. 35.
[23] Spencer: Transactions of the Obstetrical Society of London January, 1900.
[24] Barnes: Transactions of the Obstetrical Society of London, vol. xi., p. 219.

from 101° to 102° F. It will cool down to blood heat while passing through the transfusion apparatus. Care should be taken to see that the temperature is maintained during the operation, and this can most easily be done if the solution be prepared in small quantities at a time. It should in all cases be filtered through muslin before use. If it be necessary to repeat the transfusion another vein must be opened. When the patient has been revived and the immediate danger of death from syncope is staved off the extreme restlessness and headache that so frequently follow may be treated by large doses of opium or morphia. Any further tendency to syncope is best treated by raising the foot of the bed and the administration of liquid food and stimulants in small quantities at frequent intervals. The great risk of subsequent sepsis must not be forgotten and the convalescence of such patients is of necessity a slow process.

Wimpole street, W.

CALCIUM IODATE AS AN IODOFORM SUBSTITUTE AND GASTRO-INTESTINAL ANTISEPTIC.

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MANY years ago Sonstadt came to the conclusion that the minute quantity of iodine contained in sea-water is present in the form of calcium iodate.[1] To this substance, existing, as he calculated, in the proportion of one part in about 250,000[2] parts of sea-water, he attributed "not only the salubrity of the sea, but, through the medium of the atmosphere, of the land also." At a somewhat later date the same chemist made "experiments on the properties of iodate of calcium as an antiseptic and disinfecting agent."[3] Some of these experiments I have repeated, with this difference—that where Sonstadt mostly used the dry powder I have used a saturated solution of the salt, but the results obtained by me have in every instance been in complete accord with those obtained by him.

About 15 months ago I began tentatively to use calcium iodate in surgical practice as an antiseptic dressing in place of iodoform. For about the same time I have been using it, though to a less extent, in medical practice also. The results in both cases have led me to conclude that calcium iodate is a substance likely to prove of very considerable value both for external and internal use. Up to the present, however, my observations have been more particularly directed to its surgical applications. For the last six months or more I have used it without hesitation in all kinds of surgical work where iodoform is usually indicated and, I may say, to the almost total exclusion of the latter substance, and my belief in its efficacy has only increased with its continued use.

The theory of the action of calcium iodate as an antiseptic is not far to seek. It is an iodine compound containing 51 per cent. of iodine and in addition 16 per cent. of available oxygen. On contact with putrescible organic matter, whether in acid or in alkaline medium, like other iodates it slowly liberates iodine. In alkaline solution, while the organic matter is being oxidised by the oxygen set free from the decomposing iodate, the iodine by a reaction well known to occur in alkaline media slowly re-forms iodate through the decomposition of water. The iodate so re-formed in contact with another portion of putrescible matter yields further proportions of free oxygen and iodine to act as before, and so on. The process, therefore, is, so to speak, a continuous one. As most pathological discharges are alkaline we have present in such cases the necessary conditions of the continuous action of an iodate. In an acid medium, also, in the presence of reducing substances such as easily oxidisable organic matter, iodine is liberated and by the decomposition of water it sets free oxygen which is used up in oxidising any unstable organic compound that may be present. The iodine in this case passes into hydriodic acid or an iodide and so eventually ceases to act. If, however, the acid present in a medium be hydrochloric—as, for example, in the gastric juice—chlorine, though not the only substance liberated, is certainly the one liberated in greatest abundance. Chemical equation shows that calcium iodate in contact with hydrochloric acid liberates as nearly as may be four-sevenths of its weight of chlorine. On this fact theoretically depends its use as a gastro-intestinal antiseptic. As regards antiseptic action something no doubt depends on the chemical instability of iodates generally and of this iodate in particular, on the nascent action of the liberated products, and in this case on the fact that the base forms insoluble compounds such as carbonate and phosphate in contact with alkaline discharges, thus probably facilitating the free operation of the acid radicle of the salt, on which of course its particular virtue really depends.

From this view of its action it is to be inferred that calcium iodate acts more as a destroyer of the products of bacterial life than as a bactericide of any very decided degree of potency. Of its inhibitory power on bacterial growth there cannot however, I think, be any doubt. It would thus closely conform to iodoform in its action. Further, the function of the salt as a deodorant, of which I have time and again had ample proof, can be easily understood as the result of its chemical action. Iodates decompose sulphuretted hydrogen, precipitating it in part as sulphur, in part oxidising it into sulphuric acid. As the fœtor of foul discharges is no doubt in many cases due to volatile sulphur compounds, if not actually to sulphuretted hydrogen itself, we naturally expect a similar action in their case.

To pass to the practical side, the substance itself is most easily prepared—in fact, it can be prepared by any dispensing chemist as follows: Prepare an aqueous solution of iodine[4] in potassium iodide. Dilute the same till it just transmits light through a depth of three inches. Stir up some bleaching powder with water and filter into iodine solution, with occasional stirring. After a time a crystalline precipitate makes its appearance. If it is not perfectly white, but some shade of brown or slate-grey, add more iodide of potassium and stir. Run in the bleaching solution to complete decolourisation of the iodine solution. Before collecting the precipitate add a small quantity of very dilute hydrochloric acid to dissolve any carbonate of lime that may have formed during the process. Collect on filter, wash once or twice with cold water, and dry on blotting paper or in an oven at a temperature not much exceeding 100° C. The product is $Ca(IO_3)_2 + 6\,H_2O$. The particular point to be attended to is to keep the iodide of potassium in excess during the precipitation. Part of the iodide is itself oxidised to an iodate and by double decomposition with the chloride of calcium present in the bleaching solution falls as iodate of calcium. By this particular action on an iodide in alkaline solution the quantity of iodide of potassium is gradually reduced and may thus in time become insufficient to keep all the iodine in solution. From this secondary reaction the yield of calcium iodate is always in excess of what might be expected from the simple oxidation of the quantity of iodine taken.

Iodate of calcium is without taste or smell, though a slight iodine odour may be detected on opening a bottle in which it has been kept for some time. At 11·5° C. I found its solubility to be about one in 380 parts of water. In solutions of even this dilution, however, it shows a wonderful degree of potency in inhibiting decomposition, in preserving food substances, and in checking fœtor, as the following examples will show (Examples 1 and 3 are practically repetitions of experiments by Sonstadt).

1. On March 21st, 1899, about two drachms of freshly passed urine were placed in an unsterilised test-tube and an equal quantity of a saturated solution of calcium iodate added to it. The mixture would thus contain about one part of iodate in 800 parts of the solution. A control was made in a similar test-tube by adding to the same quantity of urine its own bulk of distilled water. Both tubes were freely exposed to the air. At the end of a week the control stank abominably, while the tube containing the iodate was perfectly fresh and exhaled a somewhat aromatic odour which could not in any way be associated with urine. It continued to exhale the same pleasant odour and appeared perfectly sweet and clear up to June 26th when the experiment was brought to an end by an accident to the tube. A similar experiment by Sonstadt, where, however, the dry salt had been added to the urine, would indicate the possibility of its potency extending over a much longer interval. Another experiment

[1] Chemical News, 1872, vol. xxv., p. 197.
[2] Ibid., p. 242.
[3] Ibid., vol. xxviii., p. 297.

[4] The iodine is not necessary. A solution of potassium iodide may be used alone, the iodine being set free by the bleaching solution and dissolving in the excess of iodide.

went to show that even in the proportion of about 1 in 7000 parts the decomposition of urine was markedly delayed by calcium iodate.

2. One and a half ounces of milk taken directly from the house supply had one and a half grains of iodate added to it. It was then allowed to stand freely exposed to the air for five days. At the end of this time it was found to be perfectly sweet and palatable and was drunk with impunity.

3. A piece of meat was suspended in a saturated solution of the salt and was found perfectly fresh at the end of a fortnight.

4. Half an ounce of exceedingly fœtid pus from an empyema which had burst through the diaphragm and was burrowing between the anterior abdominal wall and its peritoneal lining was shaken up with a few grains of the dry salt. In ten minutes the foul odour was all but discharged though only a small portion of the salt had evidently dissolved. An hour later the pus to which the iodate had been added was filtered in the open laboratory without its presence being indicated by any objectionable exhalation.

The result of these experiments certainly gave promise of the substance being of use in surgical work and actual trial has in my hands amply confirmed the anticipation. The following cases, which are necessarily somewhat briefly described, are to be looked on as types of the several classes of cases in which calcium iodate has been used with success rather than as isolated individual cases where it was tentatively employed. A summary embodying the general results in the several classes is appended in each case.

CASE 1.—A man, aged 45 years, was admitted into hospital with old cavities of his right apex, a systolic apical murmur, rheumatic pains in his joints, and slight continuous fever. On the day after his admission his breath was observed to be very fœtid. A saturated solution of calcium iodate was ordered as a mouth wash. Next day, after a couple of washings, his breath was found to be quite sweet and it remained so with only occasional use of the solution during the two months that he was in the hospital. In many other cases of fœtid breath, no matter what the cause, the solution has been used with a like result. In alveolar abscess, in carious teeth, in suppurative or follicular tonsillitis, and even in diphtheria, it has been found to inhibit the accompanying fœtor. In more than one case of follicular tonsillitis I have seen it exert a beneficial effect on the primary disease, while in all septic conditions of the mouth cavity I have found its use invaluable. Its absolute tastelessness is a recommendation when so used. The dry powder mixed with a due proportion of prepared chalk or other suitable diluent is suggested as a convenient antiseptic dentifrice.

CASE 2.—A woman, aged 28 years, was admitted into the hospital with a poisoned wound of the leg resulting from a kick over the tuberosity of the tibia. The leg was red, swollen, and œdematous from the ankle to some distance above the wound. The wound was washed out with the saturated solution, and ointment of vaseline (five grains to the ounce) applied on lint was used as a dressing. Next day the redness round the wound had contracted to an areola of the size of half-a-crown, and healing thereafter took place as in a simple wound. The same patient had sores, evidently specific in character, about the size of a florin, on one wrist and on the side of her neck. To these the same dressing was applied with the result that they were quite healed when she left hospital on the ninth day. Many cases of poisoned wound have been similarly treated, with this difference, that latterly I have freely powdered the wound with the dry salt after washing with the saturated solution. In every case this treatment has been perfectly successful.

CASE 3.—This patient was a woman, aged 45 years, who exhibited caries in the lower third of the femur with numerous healed sinuses, as well as discharging sinuses, some of the latter reaching to near the ankle. A huge one opened just to the inside of the patella and looked very foul and angry. The leg generally was very much swollen, red, and tender in parts from the seat of the disease downward. As no operation for the erasion of the carious focus was allowed the sinuses were syringed out daily with saturated solution and their openings were dressed with ointment containing 10 grains to the ounce applied on lint. By the fifth day the discharge of pus from the sinuses had practically ceased and all signs of inflammation had vanished. The patient left the hospital on the eighteenth day temporarily, at least, much improved. In several cases after erasion of carious bone, particularly where it was necessary to leave some extent of surface to heal by granulation, I have found the dry powder an excellent dressing. No hyper-granulation is observed after its prolonged use. The astringent character of the carbonate and phosphate of lime resulting from the decomposition of calcium iodate on the wound surface is probably largely responsible for this result. In this respect a striking difference obtains between it and iodoform.

CASE 4.—A man, aged 60 years, was admitted with deep ulcers on the front of each leg. In the case of the right leg the ulcer was of about the size of a crown piece. On the morning of admission a vein from which he had lost a considerable quantity of blood had burst at the edge of this ulcer and led to his being sent into hospital. Nearly a square inch of the periosteum of the tibia was visible at the bottom of this ulcer. On the left leg the ulcer was somewhat larger in superficial extent but not quite so deep. Both were surrounded by unhealthy dark eczematous skin, much of it evidently the scar tissue of previous ulcers from which he said he had suffered off and on for 20 years. The ulcerated surfaces were washed daily with saturated solution and dressed with ointment on lint (five grains to the ounce). After a few days of this treatment healthy granulations had sprung up over both ulcers and the discharge from their surfaces was almost *nil*. The patient left the hospital four weeks to the day from the date of his admission with both ulcers practically healed. When seen as an out-patient a week later the skin was continuous over both. No skin-grafting of any kind was done to assist the healing process. A considerable number of ulcers of the leg have been similarly treated, the ointment being mostly, however, 10 grains to the ounce; indeed, the very first case in which calcium iodate was used was a large serpiginous ulcer of the leg in a private patient. To this ulcer *lotio nigra* had been applied from time to time with somewhat indifferent success, but after the application of the iodate (10 grains to the ounce) it healed perfectly in three weeks. Another female patient who had suffered from time to time with large and somewhat intractable ulcers of the leg was so pleased with the result in her own case that she had boxes of the ointment made up by a local chemist and presented to some of her friends who were similarly affected.

CASE 5.—In a case of otorrhœa of two years' standing in a child, aged four years, the ear was syringed out with a warm saturated solution and was afterwards insufflated with a powder composed of iodate of calcium and carbonate of bismuth in proportion of one to nine. The discharge, which was very fœtid, ceased on the fifth day of treatment, but recurred some time after the cessation of the treatment. In an adult case the fœtor of the discharge was inhibited and the quantity was very much diminished by similar treatment for a fortnight. Latterly, in such cases, I have insufflated the pure powder with correspondingly more successful results.

CASE 6.—A young woman, aged 21 years, presented herself as an out-patient with a sinus on the side of the neck. A tuberculous gland had been excised in a hospital at Edinburgh and she simply came to us for dressing. After ten days' treatment on the lines indicated without improvement she was admitted into the hospital and under chloroform the upper part of the sinus was laid open and curetted. It was found to extend deeply in an upward direction from the opening for one and a half inches and downward and inward behind the sterno-mastoid for two and a half inches. Only the upper one and a half inches were curetted. The raw surface was dusted freely with calcium iodate and allowed to granulate. This it did slowly but effectively and at the end of two months it had entirely healed, a narrow linear scar not distinguishable from that left by a simple incision marking the site of operation. This case is interesting as the first in which pure iodate was applied directly to an operation wound. The first application to a raw surface—as seen at the first dressing—leaves a very fine white adhesive scum, probably consisting largely of carbonate and phosphate of lime, over the incised surfaces. This disappears in a day or two and healthy granulations take its place. It is also interesting to note that in none of the tuberculous cases so treated have any of the livid granulations so characteristic of such cases been at any time seen.

In a few cases it has seemed to me that the saturated solution shows a particular tendency to check pus formation.

CASE 7.—A woman, aged 35 years, had intercurrently with a medical ailment a deep abscess of the axilla. On opening it continued to discharge for some days very offensive pus. After two washings out with iodate solution

the fœtor was completely discharged. The formation of pus ceased and healing took place with unexpected rapidity. Again, in two cases of amputation of the thigh—one (Case 8) for tumor albus in a woman, aged 62 years, the other (Case 9) in a youth, aged 17 years, after a severe compound comminuted fracture of the femur, where abscesses had formed in the stumps during the second week after operation—it was also used with marked advantage. In the former case the suturing broke down rather extensively, partly owing to pus formation and partly owing to sheer deficiency of reparative power. A large granulating surface resulted which was daily syringed with the solution and afterwards dusted with the powder with total inhibition in a few days of all pus formation. The case eventually did well, healing proceeding slowly by granulation. In the other case a small suppurating sinus was closed in a few days by treatment on similar lines.

One of the preliminary experiments suggested the possibility of its being of use for washing out the septic bladder, and accordingly it has been so used in a few cases, with advantage in all and perfect cure in at least one. At the present moment it is being used from time to time in a case which has been demonstrated by the finding of tubercle bacilli in the urine to be one of tuberculous disease of the bladder. The symptoms have certainly improved under its use, but a reasonable doubt may be entertained of its being of any permanent benefit in such cases.[5] The solution has also been used as a vaginal douche and inhibited pus formation in a case of purulent vaginitis of some months' standing. It has also been ordered in chronic urethritis as an injection with satisfactory results. In some cases of eczema, probably those of specific type, it has done well when applied in ointment. In two cases in private practice, however, it proved slightly irritative. These have been the only cases observed in which its use has been in any way disadvantageous. In a large number of cases of injuries of the hands, such as lacerated, incised, or poisoned wounds, in whitlows of all degrees of severity short of actual bone necrosis, and in compound fractures of the phalanges, it has been used with complete success in the dry powder.

Speaking generally, I may say that calcium iodate has been used in almost all cases where iodoform is commonly used. I have not, however, applied it to the cut surfaces of amputation flaps though I have in several cases freely powdered the sutured edges after minor operations for diseased conditions. In all operations where surfaces are left to granulate, such as after curetting, I have used it in powder dusted straight on to the cut surface. In no case when so used has there been the slightest evidence of any irritative or toxic effect. Even children do not complain of any smarting after its use. Adults when questioned reply that it smarts a little after the first one or two applications of it to a raw surface, but after the formation of granulations its application is perfectly painless. Its advantages as compared with iodoform may be summarised as the absence of smell in the substance itself, the checking of fœtor, the prevention of hyper-granulation, and the inhibition of undue formation of pus. Further, it can be used where iodoform is inadmissible—for example, in aqueous solution for such purposes as a gargle or mouth-wash, for washing out the bladder, vagina, or uterus, &c.

Regarding its internal uses I have up to the present had less chance of testing its properties, but personally I can testify to its efficacy in checking fermentative changes in the stomach. I have frequently taken two grains and sometimes repeated the dose a second and even a third time during the same day without inconvenience and always with marked relief of the symptoms. It leaves a slight metallic taste in the mouth after the first few exhibitions, but this is not observed after a time. On the day after a dose of two grains there is a feeling of essential well-being accompanied by increased appetite. For this reason I am inclined to think that apart from its antiseptic action the salt really possesses some tonic properties. Sonstadt, I may say, took as much as 15 grains at one time with only "a slight headache next day, an increased appetite, and generally such effects as might follow an ordinary dose of quinine." He also alleges that he saved himself from an attack of typhoid fever by the timely administration of about a decigramme (one and a half grains) of the salt. This, coming from a layman and nearly 30 years ago, may be taken for what it is worth, but in typhoid fever we have just the conditions under which we might expect its successful use. The fact that the substance liberates chlorine when in contact with hydrochloric acid favours the idea, but I regret that up to the present I have had no opportunity of testing it in this direction, cases of typhoid fever being of notoriously rare occurrence in this neighbourhood.

When ordered for internal administration I should recommend the exhibition of the drug in solution. I have myself experienced—and others have spoken to the same effect—a feeling of heat at the epigastrium after swallowing the dry salt. Sonstadt's maximum dose of 15 grains may be set down as a long way in excess of any possible requirement, and three or four grains may be stated as a fair average dose for an adult.

In conclusion, I may say that during the experimental stage the substance was known by the provisional name of "Calcinol" and that the total supply was prepared by myself or latterly made for me by the local chemists according to the directions already given.

Elgin.

[5] All symptoms have been in abeyance, the urine continuing acid since August 5th, when the bladder was last washed out.

CIRCUMCISION AS A PREVENTIVE OF SYPHILIS AND OTHER DISORDERS.

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"*The prepuce is an appendix to the genital organs the object of which I could never divine; instead of being of use it leads to a great deal of inconvenience, and the Jews have acted kindly in circumcising their children, as it renders them free from one at least of the ills to which flesh is heir.*"—RICORD.[1]

I HAVE no new fact to disclose or theory to propound. The burden of my theme is this: that if it were possible to secure the efficient circumcision of every male in infancy not only would many of the disorders incidental to the genito-urinary organs in childhood, adolescence, and adult life be prevented, but also—a fact of far greater importance—that the incidence of that scourge of humanity, syphilis, which in its ever-varying phases permeates all classes of society at every period of life, would be materially diminished. When, however, one becomes the advocate for the universal practice of an operation which has for its object the wholesale removal of a certain healthy structure as a preventive measure, the results of which, far reaching though they be, can only be looked for in the more or less dim and distant future, one will naturally be expected to adduce good evidence not only that the results justify the operation, but also that the operation is justifiable. In other words, it is necessary to show: (1) that the operation is free from risk; (2) that the deprivation of the structure which it is proposed to remove will not inflict any physical disability on the individual; and (3) that the benefits which are likely to accrue are substantial and commensurate with the sacrifice. The questions which arise out of these propositions I shall endeavour to answer *seriatim*, but as briefly as possible.

1. *Is the operation safe?*—Most of those who are competent to judge, I take it, will agree with the statement that, given a healthy child in the hands of a competent surgeon who adopts every precaution which modern surgery demands, the operation of circumcision is attended with such infinitesimal risk that for all practical purposes it may be considered to be safe.

2. *Does the operation interfere with the physical well-being of the individual?*—From a sanitary point of view it can hardly be gainsaid that the removal of the prepuce is a decided advantage, the permanent exposure of the glans rendering that organ more cleanly and more readily cleansed. But it has been urged as an argument against the universal adoption of circumcision that the removal of the protective covering of the glans tends to dull the sensibility of that exquisitely sensitive structure and thereby diminishes sexual appetite and the pleasurable effects of coitus. Granted that this be true, my answer is that, whatever may have been the case in days gone by, sensuality in our time needs neither whip nor spur, but would be all the better for a little more judicious use of curb and bearing-rein. That circumcision is

[1] Quoted by Watson, Edinburgh Medical Journal, vol. xviii., p. 752.

no bar to procreation is well exemplified by the fact that the Jewish race, who have practised universal circumcision from time immemorial, still survive and show no sign of ceasing to increase and multiply. The Mahomedans,[3] again, among whom the practice is as common as among the Jews, certainly do not seem to suffer from any lack of virility. On general grounds, then, it is safe to conclude that circumcision not only does not interfere with the physical welfare of the individual but that from several points of view it is a positive advantage.

3. *Does the end justify the means?*—It would be sheer waste of time for me to dilate here at any length on the evils which arise from a long, adherent, or constricted prepuce. The effects of these conditions—including as they do dysuria, enuresis, urinary retention, balanitis, constriction of the glans, hernia, rectal prolapse, difficulty in sexual intercourse, aggravation of gonorrhœa, a liability to contract evil habits, together with a whole host of nervous symptoms, more or less severe, which follow in their train—are, or should be, well recognised. Every surgeon knows how readily these conditions can be relieved—and if relieved then prevented—by circumcision.

But if these were the only troubles which it was sought to obviate by the practice which I am advocating, I fear that it would find but few adherents, as, no doubt, these ailments can be effectually dealt with as they arise. Unfortunately, however, the matter does not end here, and the prevention of these ailments, although a matter of no small importance, sinks into insignificance in comparison with the great result which it is sought to attain—namely, the prevention of syphilis. This is the point to which I wish to direct special attention, and the remainder of this paper will be devoted to adducing what evidence I can to prove that the universal practice of circumcision would have the effect of reducing the case-incidence of syphilis in a substantial degree.

Before going into details I should like to refer very briefly to the general effects produced by the changed anatomical relations of the parts which exist after circumcision. Under normal conditions the prepuce covers the glans like a hood and consists essentially of a reduplicated fold of skin, the outer surface of which is continuous with the general tegumentary covering of the penis, while the inner or inverted surface is continuous with the skin covering the glans, forming the retro-preputial fold behind and the frænum below. After circumcision the glans is exposed, the retro-preputial fold is everted and obliterated, and the frænum, if the operation is efficiently performed, ceases to exist. Thus the various pocket-like folds which formerly existed around the glans and favoured the retention of secretion are smoothed out, and thereby the risks of irritation and excoriation, as well as the implantation of disease germs, are reduced to a minimum. Again, the dry, somewhat thickened, condition of the epithelium of the glans which is observed after circumcision, due no doubt to the combined effects of exposure to the air and slight friction of the clothes, offers an additional barrier to any local infection. Indeed, anyone who has taken the trouble to compare the dry, pink-parchment-like, cleanly appearance of the glans of the circumcised with the sodden, swollen, uncleanly structure which is frequently presented to view when the prepuce of the uncircumcised is retracted cannot fail to have been struck by the contrast. In the latter case the space between the prepuce and the glans forms the very *beau idéal* of a place for the implantation and multiplication of bacteria of all kinds, the pent-up secretions furnishing them with an efficient nutrient medium in which to grow, the heat and moisture favouring their development, and the excoriations which are so liable to exist forming a ready means whereby their products may gain access to the general circulation. But my readers will expect me to bring forward more tangible proofs than vague general inferences.

Although it seems to be the prevalent opinion that syphilis is less common among the Jews actual statistics are few. Jonathan Hutchinson,[3] however, gives the following analysis of 330 cases of venereal disease among hospital patients, about one-third of whom were Jews.

—	Total venereal cases.	Gonorrhœa.	Syphilis.
Not Jews	272	107	165
Jews	58	47	11

[3] Popular Encyclopædia: article, "Circumcision."
[3] Medical Times and Gazette, Dec. 1st, 1855.

This table serves to show not only that the incidence of syphilis is far less frequent among the Jews but that the incidence of gonorrhœa is far more frequent, thus clearly proving that their comparative immunity from syphilis is not due to their excessive morality, but rather, in the absence of any other reason, to circumcision.

My own experience completely bears out the idea that syphilis is less prevalent among the circumcised, although unfortunately I have no figures to adduce. During the three years in which I served as surgeon to the Peninsular and Oriental Steam Navigation Company I never remember to have seen a primary syphilitic chancre among the Lascar crew, who being Mahomedans are circumcised to a man, while among the Sedi boys, who for the most part grow long foreskins, primary sores were not uncommon, nor were the European crew exempt. Other venereal diseases were prevalent among the Lascars, so that their immunity could not be ascribed to any greater morality on their part. I was much struck at the time by the apparent immunity of the Lascar to syphilis, and could only ascribe it to his having the good sense to follow the example of the Prophet and be circumcised.

Granted for a moment that universal circumcision is likely to cause a reduction in the case-incidence of syphilis, the next question to be considered is what amount of reduction is likely. For obvious reasons the vast majority of primary syphilitic lesions (according to Julien [4] about 94 per cent.) occur on the genitals, and all observers from the time of John Hunter [5] onwards are agreed that in the male the seat of election for the primary sore is the prepuce. As to the part of the prepuce which is most commonly affected there seems to be some divergence of opinion, some giving the inner surface of the prepuce and others the retro-preputial fold the precedence. According to Jonathan Hutchinson [6] "the most frequent position for chancres is the prepuce (reverted) just behind the corona ('the furrow')."

To show the relative frequency with which the primary lesion occurs on the prepuce, as compared with primary genital lesions in the male occurring elsewhere, I append the subjoined table which I have compiled from the statistics of three well-known observers.

Observer.	Number of initial lesions.	Number on the prepuce and furrow.	Percentage on the prepuce and furrow.
Fournier[7] ...	423	314	74·2
Clerc[8]	325	234	71·6
Berkeley Hill[9]	150	111	74·0
Total	898	659	73·3

Probably the veriest enthusiast would hardly claim that the whole of this 73·3 per cent. of genital chancres in men could be prevented by circumcision, however skilfully performed or however universal. Most, however, would be inclined to admit that it would be possible to prevent practically all chancres occurring on the prepuce proper and a variable number of those at the retro-preputial fold (furrow). Unfortunately, in the statistics of Fournier and Clerc quoted above these two classes are massed together and no conclusion can be drawn as to their relative frequency. Of Berkeley Hill's [10] 150 cases, 70, or 46·6 per cent., occurred on the prepuce proper, and Jonathan Hutchinson, jun.,[11] out of a series of 125 genital chancres found that 25 per cent. occurred on the prepuce. While the former estimate is probably considerably above the average the latter is possibly somewhat below. Taking, however, the lower percentage as correct, one may conclude, according to the above statistics, that the universal practice of circumcision should reduce the case-incidence of genital syphilis in the male by something between 25 per cent. and 73 per cent., or, taking a mean of these, by 49 per cent. But,

[4] Julien, who collected statistics from various authors of 19 syphilitic chancres, found that 126 were extra-genital, or over 6 per cent. Quoted by Bronson, "System of Genito-Urinary Diseases," edited by Morrow, 1894, p. 83.
[5] A Treatise on Venereal Disease, edited by Everard Home, third edition, 1815, p. 251.
[6] Syphilis, 1889, p. 96.
[7] Leçons sur le Chancre, p. 364.
[8] Maladies Vénériennes, 1866, p. 97.
[9] Syphilis and Local Contagious Disorders, 1881, p. 87.
[10] Ibid.
[11] THE LANCET, June 2nd, 1900, p. 1575.

striking as these figures undoubtedly are, they by no means represent the whole result.

Everyone who suffers from syphilis in its infectious stages becomes a potential focus of infection and a source of danger to others. Conversely, every case of syphilis prevented becomes a potential source of prevention and a safeguard to others. Thus circumcision may not only confer a benefit upon the circumcised but also on others with whom he may come in contact. Unfortunately, it is quite impossible to bring any direct numerical evidence to bear upon this point, but a hypothetical case, based on a very moderate computation, will serve to show how in a very short space of time one focus of infection may grow into several hundred. Take, for example, a man with a syphilitic chancre on the prepuce; in all probability he will sooner or later infect some woman, who, if he be single, is likely to be of the prostitute class. Supposing this to occur, the woman, in all human probability, will in due course infect several other men, who, in their turn, will infect as many women, each of whom again is likely to infect several more men, and so on, the disease being spread and the numbers increasing with alarming rapidity. When one considers that the primary source of infection might have been prevented by circumcision, and that the whole series of cases which have been assumed to follow in its wake each in their turn become fresh sources of infection, capable under favourable circumstances of producing like results, it becomes impossible to estimate the number of cases which might be prevented by circumcision, if universally practised. All that can be said is that if the immediate effects are great the remote effects must be far greater.

But, again, the matter does not end here. In syphilis it is not only the guilty who suffer, but the innocent suffer with the guilty and the sins of the fathers are in very truth visited upon the children. Deplorable as such a state of affairs may be, it is nevertheless far from uncommon for a married man to infect his innocent wife, and through her his offspring which is yet unborn. Is there any direct evidence to show that the practice which I am advocating will materially diminish this massacre of the innocents? Fortunately there is. Jonathan Hutchinson[12] found that out of 97 female hospital patients who came under his observation in one year for venereal disease 92 were Christians and five were Jews. Of the former 61 were married, and at least two-thirds of these had apparently contracted syphilis from their husbands. Again, the same observer[13] found, out of 252 children under five years of age who came under his care in the course of a year, 179 Christians, giving 27 cases of congenital syphilis, and 73 Jews, giving only three cases of congenital syphilis. These statistics clearly show an enormous reduction in the case-incidence of syphilis among the women and children of the circumcised Jews, and in view of what has already been said the only deduction which can reasonably be drawn from their study is that if the practice of circumcision were to become as general among Christians as it is among their Jewish brethren a proportionately great reduction of the case-incidence of syphilis would take place among their women and children. In other words, a not inconsiderable number of innocent women and children would be spared the indignity of being doomed to suffer, through no fault of their own, from a loathsome and lifelong disease—a no mean result, whether considered from a sentimental or practical point of view, and one which, in the absence of any other reason, should amply prove that "the end justifies the means."

Before concluding, however, I should like to say a few words about the operation itself. Simple as the operation is, certain details must be observed in its performance if the result is to be successful for the special purpose which one has in view. It must ever be borne in mind that the special object to be attained by circumcision as a preventive of syphilis is not only the removal of the prepuce, but, as far as possible, the obliteration of all folds about the glans. The advice usually given to the novice is to be careful not to remove too much skin. Consequently too little, rather than too much, is often removed. The result is that the retro-preputial fold still persists, a matter of some moment from the present point of view. The incision should be made in such a way as to be oblique from above downwards and forwards, and slightly concave forwards so that when the skin retracts it may sit snugly behind the corona. In other words, the plane of the incision should be as nearly as possible parallel to the plane of the corona. The reflected layer of the prepuce—the so-called mucous layer—which has been left untouched by the first incision, should, after being slit up and reverted, be carefully trimmed around the corona glandis in such a way as to allow the cut edge to come neatly into contact with the cut edge of the part first removed. A wedge-shaped piece of the frænum should always be removed. By so doing the folds which exist on either side are obliterated and the œdematous nodule which is liable to form at this point is prevented. All rough and unnecessary manipulation is to be avoided, as, the cellular tissue being very loose, œdema is easily produced, which not only retards healing but becomes a source of anxiety to the child's friends. Whether my premisses are correct and my deductions sound I must leave others to judge. If they be so, then it becomes the imperative duty of everyone who is cognisant of the facts to exert his influence for the benefit of humanity at large by securing, as far as possible, the efficient circumcision of every male child who comes under his notice. For my own part I am convinced that any community among which syphilis is rife and which imposes upon itself the obligation to circumcise every male child who appears in its midst will confer a great and lasting benefit upon its members, both present and yet to be, at an infinitesimal outlay.

Beaumont-street, W.

[12] Medical Times and Gazette, Dec. 1st, 1855.
[13] Ibid.

ON A NEW METHOD IN THE DISCISSION OF SOFT CATARACTS.

BY PERCY DUNN, F.R.C.S. ENG.,
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THE present-day method of treating soft cataracts by discission is to use a very fine cataract needle, to make a small incision in the capsule of the lens, to employ care not to break up the lens substance too freely, particularly to avoid allowing any of the aqueous to escape during the procedure, and, in short, to aim at securing a gradual absorption of the soft lens matter from the anterior chamber. The effect of this gradual absorption is that some months generally have to elapse before the process is completed. Occasionally, moreover, it happens that the operation has to be repeated owing to the process of absorption having been arrested by the cicatrisation of the capsular wound. Thus further time is lost before the whole lens matter is absorbed and the object of the operation is attained. The disadvantage of this loss of time is obvious, but the procedure has another drawback. There is the possible risk of the swelling of the lens, caused by the imbibition of the aqueous, giving rise to increased intra-ocular tension, necessitating further and immediate interference.

Reflecting, therefore, as I have done for some time, upon these facts, it seemed to me that the operation of discission as practised in the present day by no means fulfilled the requirements of the surgeon and that it was capable of improvement. As a matter of fact, the point upon which the present method of discission wholly hinges is that of the fear of causing glaucomatous symptoms by a too free disturbance of the lens substance. It is clearly for this reason that only a limited incision is made in the capsule and care is exercised to secure that only a small quantity of soft lens matter shall escape into the anterior chamber at a time.

The first consideration, then, which seemed to demand attention was how to deal with this risk of the occurrence of increased tension. The solution of the problem quickly presented itself. All that was necessary in order to meet the difficulty appeared to be to allow the aqueous to drain away from the anterior chamber before withdrawing the needle. The conclusion is plain that with the aqueous removed any further rapid swelling of the lens would be impossible, and with the globe in a condition of minus tension owing to the loss of the aqueous the subsequent restoration of the anterior chamber would necessarily depend upon the degree of swelling of the lens which was present and upon the amount of soft lens matter which was free and ready for absorption. To put the same matter differently, it is reasonable to conclude that the condition of the lens after the needling would determine the degree of the restored tension.

With a swollen lens the aqueous would probably only be re-secreted to the amount which was needful to restore the tension to the normal, and thus it might come to pass that part of the latter might be due to the swollen condition of the lens and the presence in the eye of broken-down soft lens matter, and part to re-secreted aqueous. For this reason, therefore, it is not possible to conceive that glaucomatous symptoms could arise under these circumstances—that is to say, after the aqueous had been allowed to escape at the time of the operation. This assumption is based upon the fact that the intra-ocular tension of a healthy eye is regulated by its requirements; in other words, the lower the tension the greater is the secretion of aqueous, the higher the tension the less the secretion. Thus, assuming these premisses to be correct, three advantages could be claimed for this new method of procedure: (1) the avoidance of the risk of causing increased tension; (2) the possibility of freely breaking up the lens; and (3) the rapid absorption of the soft lens matter.

But, again, a lowered tension must imply a more rapid circulation of fluid through the eye, and it is precisely that condition of affairs which is most to be desired in cases of discission, for the more rapid the circulation of the intra-ocular fluid the more rapid must be the absorption of the soft lens matter. Quite possibly the slowness of the absorption following the present-day method of discission is partly, if not greatly, due to the persistence of a slightly raised tension which causes the circulation of the intra-ocular fluid to be a leisurely process.

It was not long before the opportunity occurred to me of putting these conclusions to the test. The case was that of a child whose right lens I had needled some months previously for congenital cataract. Only one needling was necessary, but at least three months elapsed before the pupil was black. The operation upon the left lens was considerably delayed owing to the supervention of an attack of scarlet fever. When, however, the child had made a good recovery from this, I proceeded to operate upon the second eye as follows:—

Chloroform having been administered I took a broad, instead of a fine, cataract needle, and the pupil being well under atropine, I passed the former into the anterior chamber and the lens, making a vertical and horizontal incision in the capsule. I then freely broke up the lens and afterwards withdrew the needle until the point only remained in the anterior chamber. Next, I partly turned the needle on its axis, by which I allowed all the aqueous to escape slowly from the eye. The globe and conjunctival sac were thoroughly douched with chinosol (1 in 4000); some drops of atropine of the strength of two grains to the ounce of water were instilled, and a pad of chinosol gauze and a bandage were applied. The result of the operation was as follows. There was no reaction; in four days' time the pupil was quite black, and all that was left of the lens was a small quantity of soft lens matter lying at the bottom of the anterior chamber. After the lapse of 14 days there was merely a trace of this lental remnant to be seen.

The above facts speak for themselves. They show, I think, that the rapid absorption of soft lens matter from the anterior chamber is only possible when the intra-ocular ension has been reduced by the removal of the aqueous.

A word may now be said regarding the possibility of any untoward effects following the evacuation of the aqueous under these circumstances. The first and only complication which suggests itself is that of iritis, and it might be supposed that in the event of its supervention its origin would be due to mechanical irritation caused by the presence of the broken-up lens matter. But the doctrine that mechanical irritation *per se* can excite inflammation anywhere in the tissues is not one which, in the present day, receives support from scientific testimony. I cannot, therefore, conceive how iritis could occur in these cases unless there was a failure to secure strict antisepticism at the time of the operation.

Some confirmation of the expediency of allowing the aqueous to escape in the discission of soft cataracts occurs in many cases of extraction operations for senile cataract. In these cases no difficulty is experienced in obtaining the fairly rapid absorption of the lental débris which it has been found impossible to remove after the extraction of the lens—a result which, I believe, must be chiefly due to the lowered tension in the eye caused by the necessary steps of the operation.

Wimpole-street, W.

A CASE OF HYDATIDS PRIMARILY AFFECTING THE LUNG.

BY JULIUS CÆSAR, F.R.C.S. IREL., L.R.C.P., L.R.C.S. EDIN.

THAT hydatids primarily affecting the lung are exceedingly rare is evidenced by the very brief reference made to them in those works which discuss the matter, some writers stating that they are hardly ever met with and others ignoring the subject altogether. Mr. Norman Porritt in his work on "Intra-Thoracic Effusion" gives but one case.

That the following case was one of hydatids originating in the lung will, I think, be beyond dispute after a consideration of the following facts. 1. The liver was of normal size. 2. The hydatids could not have originated in the pleura, as had they done so, according to Dr. Clifford Allbutt, the costal and pulmonary pleuræ would have become fused, but I was able to sweep my hand round the inter-pleural space. 3. There was no discoverable communication between the abdominal and pleural cavities. 4. I found the growth springing from, or attached to, the base of the lung. There was nothing in the history of the patient to suggest the source of the infection beyond the fact that some six years ago she was laid up for about nine months with what her medical attendant stated to be blood-poisoning from drinking foul water. She never lived where dogs were kept (i.e., kennels) or out of England. She was said to have complained for some years of a pain in her right side, but this was not severe enough to induce her to seek advice for it.

The patient first came under my care in July, 1900, complaining of vomiting, diarrhœa, and severe pains shooting across her abdomen. By the end of a week these had completely subsided and she resumed her domestic duties and continued to perform them up to August 10th, when she was suddenly seized with a recurrence of these symptoms and in addition she complained of shortness of breath and of expectoration of a clear viscid fluid. Her respirations were 36, her pulse was 94, and her temperature was 98° F. Auscultation revealed nothing to account for the dyspnœa and percussion only doubtful dulness at the base of the right lung. Vocal fremitus and vocal resonance were normal. On the 11th the patient was in much the same state except that the bowels were more relaxed; the expectoration was, if anything, more viscid and was accompanied on two occasions by a distinct streak of blood which showed no inclination to spread. On the 12th she had a very bad attack of dyspnœa which lasted for a few hours and then subsided. The pain was decidedly more localised to the right side. The vomiting had ceased and the bowels were less relaxed. On the 13th her breathing was much easier but the expectoration continued and looked like the partially coagulated white of an egg. The dulness was more definable. The respirations were 30, the pulse was 80, and the temperature was 98°. On the 14th she was much the same; the bowels acted normally. For the next three days her state did not materially change except that she had to be propped up in bed to assist her breathing and the dulness had become more marked and the dyspnœa more frequent. She had no bad attack of dyspnœa on the 18th, but she could not lie down because of the cough and the expectoration. The latter had become very viscid and was always accompanied by the streak of blood. The dulness reached to within two fingers' breadth of the inferior angle of the scapula, below which point vocal fremitus and vocal resonance were abolished. The respirations were 40, the pulse was 86, and the temperature was 98°. She had a very bad day and night on the 19th, the dyspnœa, cough, and expectoration being incessant and quite prostrating her after each attack. The temperature rose to 99°, which was the highest point it had as yet attained. The symptoms having undergone no improvement since the 19th, on the 20th I tapped the thorax at the ninth interspace a little behind the axillary line, and withdrew about two and a half ounces of pale sherry-coloured gelatinous substance which the microscope showed to be broken-down hydatid cysts without hooklets. During the operation the patient's breathing became much embarrassed and she nearly fainted. On the 21st the tapping did not appear to have afforded her relief. Her temperature rose to 100° and fine râles were heard in front just below the right nipple.

As the surroundings of the patient were not conducive to her

comfort or the success of an operation I advised her to go into the union infirmary, but she put it off from day to day until Sept. 6th when she was admitted. In the meantime her condition had gone from bad to worse; her strength began to fail, the râles in her lung to get louder and coarser, and she expectorated yellow phlegm. The temperature was 100°, the respirations were 40, and the pulse was 90. On the 9th I was about to make an incision in her side in hopes of giving her at least temporary relief, but her breathing became so embarrassed that I was obliged to desist. Her temperature on this day reached its highest point (101°) and remained at that point until her death on the 11th.

Twenty-four hours after the patient's death I made a restricted post-mortem examination, as I could not get permission to do more. I opened the chest through an incision along the ribs and through the attached diaphragm. I examined the seat of entrance of the trocar and found no trace of it on the inside; but about a pint and a half of a yellow gelatinous fluid, consisting partly of cysts varying in size from a threepenny piece to that of a five-shilling piece and looking like nothing so much as slightly yellow-tinged jellyfish, with a little pus towards the end, flowed out.

I think there are several points of interest in this case, apart from its rarity, as regards diagnosis: 1. The very low temperature, which was never above 100°, up to within a couple of days before death. 2. The character of the expectoration with the well-defined streak of blood. 3. The intermittent and severe dyspnœa. 4. The diarrhœa. 5. The fact of the patient having years before suffered from drinking foul water. Dr. Clifford Allbutt in his "System of Medicine" refers to all these points as being characteristic, and I think they go a very long way towards differentiating it from pleurisy with effusion or empyema, and its being confined to one side would, I think, be sufficient to exclude hydrothorax.

Minster, Sheerness.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PUERPERAL FEVER SUCCESSFULLY TREATED WITH ANTISTREPTOCOCCIC SERUM.

BY HERBERT E. WALLER, M.R.C.S. ENG., L.R.C.P LOND.,
AND
FRANCIS R. GIBBS, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, who was a primipara, 23 years of age, was confined on Nov. 25th, at 9 P.M. It was a difficult high forceps case, the presentation being occipito-posterior and the head not well flexed. The cervix uteri was torn in two places, but not to any considerable extent, and the perineum was ruptured. Two stitches were inserted and full antiseptic precautions were observed throughout. The patient suffered a good deal from shock, having been in labour fully 36 hours. A vaginal douche of solution of corrosive sublimate (1 in 2000) was given next morning. On the morning of Nov. 28th (the third day after delivery) the patient had a pulse of 120 per minute and a temperature of 102·8° F. She had had several rigors during the previous night; the uterus was tender, and the tongue was tremulous. An enema was given and was followed by a good action of the bowels. By night the temperature rose to 104° and the pulse was 180 and irregular, sometimes beating at the rate of 200 and only to be counted with certainty by using a stethoscope. The uterus was accordingly well irrigated with the same solution as before by means of a long channelled glass tube. The lochia were scanty and offensive. Tincture of digitalis in doses of five minims every four hours and brandy at the rate of six ounces in 24 hours were given. On the 29th the temperature was still 103·6° and the pulse was 150. She was taking her food well and appeared remarkably well throughout, a feature in itself by no means cheering. Another intra-uterine douche was given and the serum treatment was commenced, six or seven cubic centimetres of antistreptococcic serum being given in the morning as a first dose. 20 grains of sulphate of quinine were given in two doses during the day, some dizziness and slight deafness resulting. The bowels were loose during the day, being opened four times. In the evening the temperature was 103° and the pulse was 159. The skin was cool and moist. The uterus was again washed out and the perineal wound, which was sloughy, was painted with silver nitrate solution; 10 cubic centimetres of serum were injected and 15 minims of tincture of digitalis were given every four hours together with chalk mixture for the diarrhœa. Brandy was continued at the same rate as before. On the 30th the temperature was normal, but the pulse was still 120. 10 cubic centimetres of serum were injected, the uterus was washed out morning and evening, and the other treatment was continued as before, but with the omission of the quinine. In the evening the temperature was 99·4° and the pulse was 116. On Dec. 1st the morning temperature was normal and the pulse was 104, the evening temperature being 99·8° and the pulse 120. 10 cubic centimetres of serum were injected in the morning and a uterine douche was given morning and evening. The patient was drowsy throughout the day and it was decided to wait a day before giving a further injection of serum. There was no subsequent rise of temperature and recovery was uninterrupted. The injection of the antistreptococcic serum produced no local symptoms other than a slightly raised irritating erythema which occurred a few days afterwards and lasted only a few hours.

Previously we had tried the antistreptococcic serum on only two cases, both of which terminated fatally. One of these patients was a young woman suffering from puerperal fever who came under our care several days after delivery. She had been having uterine douches twice daily, but the antistreptococcic serum was not used till the third or fourth day after delivery, and did not seem to exert any influence. The patient preserved that characteristic absence of subjective symptoms which has been marked in every case that has come under our notice. A few days before her death, when her temperature was 106° F., she sat up in bed playing with the baby and professed herself "All right to-day, thank you." The other case was that of a man, aged 81 years, who had his superior maxilla, including the contents of the orbit, removed for sarcoma of the antrum. Hæmorrhage was very free and the actual cautery had to be used. The patient was a very hearty old man and stood the operation well, but, unfortunately, erysipelas set in in a few days afterwards. We tried the serum on the next day, injecting 20 cubic centimetres at first and 10 cubic centimetres daily afterwards, but no good seemed to result, and the injections gave rise to considerable pain locally, so the treatment was abandoned. The old man only survived a few days more.

The success in the treatment of the third patient (the case described above) was due, we believe, to the early injection of the serum, which was ordered by telegram from, and sent immediately by, Messrs. Burroughs and Wellcome. It will be observed that the first douche produced probably no effect, as the fall in temperature from 104° on the evening of Nov. 28th to 103·6° on the morning of the 29th was, perhaps, only natural. The first dose of serum, accompanied by a douche, produced a slight effect—namely, a fall in temperature from 103·6° in the morning to 103° at night. The second dose (and douche) produced a fall in temperature from 103° at night to normal in the morning, and under continuance of the treatment the temperature did not again reach 100°. No bacteriological examination of the blood was made, but the symptoms of the onset of the malady were as well marked as in any case which we have been unfortunate enough to witness.

Bourne End, Bucks.

INFECTIVE PAROTITIS AFTER ABDOMINAL SECTION AFFECTING TWO OTHER MEMBERS OF A FAMILY.

BY BERTRAM ADDENBROOKE, M.D. DURH., M.R.C.S. ENG.

THE history of the following cases is, I venture to think, of the greatest interest.

On Nov. 5th, 1900, I performed the operation of abdominal section on a boy, aged 13 years, who suffered from suppurative peritonitis (non-tuberculous). Three days after the operation he complained of pain and stiffness in the

region of the left parotid gland. This soon spread to the right side, and within 24 hours he was suffering from a severe attack of double parotitis, a somewhat rare though recognised complication after abdominal section; the parotitis gradually resolved and no outward traces of the attack remained after Nov. 13th. On Nov. 21st an aunt of the patient visited him and stayed with him for about an hour and a half, kissing him both on entering and leaving the room; she had walked about seven miles to see the boy and she walked the same distance home again. On reaching home she complained of feeling very tired. Previously to this visit she had not seen the boy since an hour before the operation. On Nov. 24th (three days after her visit) she complained of stiffness in the region of the parotid glands and developed double parotitis, which gradually resolved. On Nov. 27th the sister of the last patient, with whom she was living, also complained of stiffness in the region of the parotid gland and she developed likewise, in a few hours, a mild attack of parotitis which also in a few days subsided; this third patient had never been in contact with the original patient at any period of his illness. I inquired most carefully for any cases of parotitis epidemica (mumps) in the neighbourhood where these patients lived, but failed to elicit any history of such. I would suggest that the two attacks of parotitis, in the aunt and her sister respectively, were due to direct infection, and hence the rapidity of the onset of illness after being inoculated, the infection travelling down Stenson's duct to the mouth of the boy, thence to the aunt, and then by the same route from the aunt to her sister.

Metastasis is, I venture to think, not a very satisfactory explanation either of the parotitis that occurs after abdominal section or of the well-known orchitis that follows after mumps, although it is the best one we have. If, however, the operation was, by metastasis, the determining cause of the parotitis in the boy, there was a very striking point in connexion with these cases—namely, (1) three days after the operation (the determining cause) the boy developed parotitis; (2) three days after visiting the boy the aunt developed parotitis (having rendered herself by over-exertion and fatigue less resistant to infection); and (3) three days later the sister developed the same affection, evidently having caught it from the previous patient (the boy's aunt). In all of these there is the definite incubation period of three days. Had these cases of parotitis suppurated, cultures might have been made and some evidence as to the connecting links between the cases obtained, but fortunately for the patients themselves, suppuration did not occur. I have been unable to find any record of similar cases, and I hope that some of your readers may be able to throw some light on an interesting pathological condition.

Kidderminster.

MEASLES AT SWANSEA.—At the meeting of the Swansea Sanitary Committee held on Dec. 17th the medical officer of health, Mr. E. Davies, reported that 29 deaths from measles had occurred during the past nine weeks and that five of the elementary schools in the town had been closed owing to the epidemic. Mr. J. A. Rawlings remarked that measles ought to be included in the list of notifiable diseases, and it was eventually decided that notice to that effect should be given.

BRISTOL MEDICAL MISSION.—At the meeting of the Bristol Medical Missionary Society held on Dec. 18th it was stated that during the past 12 months 8310 patients had been treated against 7535 in 1899, and that of this number more than 2000 had been attended at their own homes. The expenditure for the year amounted to £726 and the income to £643. The adverse balance of the mission now amounts to about £300 and a special effort is to be made to raise that amount.

INFANTILE MORTALITY AND HEREDITARY SYPHILIS.—At the meeting of the Stonehouse (Plymouth) District Council held on Dec. 11th the medical officer of health (Mr. T. Leah) reported upon the infantile mortality, which is higher than the average throughout the county of Devon. Stonehouse is the most densely populated town in the area of the Devon County Council and Mr. Leah stated that the density of the population was one of the causes of this mortality, while he added that hereditary syphilis was decidedly on the increase since the Contagious Diseases Act was repealed.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ANCOATS HOSPITAL, MANCHESTER.

A CASE OF MELANOTIC SARCOMA OF THE LIVER; WITH REMARKS ON THE DIAGNOSIS OF MELANOTIC TUMOURS OF THE INTERNAL ORGANS.

(Under the care of Dr. R. T. WILLIAMSON.)

MELANOTIC sarcoma of the liver is nearly always secondary, though some very definite cases have been recorded in which it appeared to be primary.[1] The association of the affection of the liver with the same form of growth in the eye is frequent and only a short time intervenes between the primary eye affection and the appearance of the disease in the liver, as in the case recorded below, but in one case the interval between the removal of the eye and death from the growth in the liver was 10 years.[2] As in Dr. Williamson's case, it is not rare for secondary sarcomatous growths of the liver to give rise to a uniform enlargement in which no individual tumour masses can be felt.

A girl, aged 16 years, was admitted into the Ancoats Hospital on Sept. 13th, 1900, on account of enlargement of the abdomen. Three months before admission her sight had commenced to fail in the right eye and in a short time vision was lost in this eye. The eye was removed, on account of intra-ocular tumour, by Mr. E. Roberts, surgeon to the Manchester Royal Eye Hospital, five weeks before the patient's admission to the Ancoats Hospital. Four weeks after the operation she first noticed the swelling of the abdomen.

On admission the patient was fairly well nourished. There was no jaundice and no pigment spots or tumours were present in the skin. The temperature was normal. There was no œdema of the legs. Nothing abnormal could be detected in the heart and lungs. The liver was very much enlarged; its upper limit reached as high as the fourth rib; its lower edge extended down to the iliac crest on the right side and could be felt below the umbilicus in the middle line. The lower edge of the liver was sharp and even. The surface of the liver was quite smooth and firm. The hepatic enlargement was uniform. There was no hepatic pain or tenderness, and there was no ascites. The spleen was not enlarged. The patient vomited occasionally and suffered from diarrhœa. There was no hæmatemesis.

The urine was slightly darker than normal urine when freshly passed, but it had only a slight brownish tinge. When allowed to stand exposed to the air for several days, however, it became black in colour, but when kept in a corked bottle it had not changed its colour at the end of seven weeks. The specific gravity was 1015 and the reaction was acid; albumin and sugar were absent. The addition of nitric acid to the urine produced a deep black coloration with a slight brownish tinge. A solution of perchloride of iron produced a deep black coloration. Sulphuric acid and bichromate of potash also produced a deep black coloration. These are the reactions for melanin. There was no reaction of the urine for blood pigment with tincture of guaiacum and ozonic ether and no hæmin crystals could be obtained. A deep Prussian blue coloration was obtained on the addition of nitro-prusside of sodium, liquor potassæ, and acetic acid.

During the four weeks that the patient was in hospital she gradually lost flesh. At times she suffered from severe pain in the abdomen chiefly in the region of the epigastrium. At other times the pain was absent and on these occasions, even at the end of the illness, the liver was painless on palpation. Towards the end of the patient's illness the feet were slightly œdematous, but there was never any ascites. There was no

[1] Delépine: THE LANCET, Jan. 24th, 1891, p. 196.
[2] Loc. cit.

jaundice until the last day of life when the conjunctivæ presented a slight yellow tinge. Death occurred on Oct. 15th.

Necropsy.—At the post-mortem examination none of the organs presented any pathological changes of importance except the liver. The liver was greatly enlarged, extending down to the iliac anterior superior spine. The enlargement was uniform; the lower margin was sharp and the surface was smooth. The weight was 13¼ pounds. On section the whole organ was infiltrated with tumour growths. In most parts the liver substance was studded with small, roundish patches of tumour growth varying from one-eighth of an inch to half an inch in diameter; in some parts the liver substance was infiltrated with extensive, deep, black patches of tumour growth. At many points close to the pigmented patches and nodules were other nodules of tumour growth of a bright, white colour. The kidneys were normal with the exception of one small melanotic nodule of the size of a pea. The spleen was not enlarged. The stomach and intestines were compressed greatly by the enlarged liver but otherwise appeared to be normal. The thoracic organs presented no changes of importance. The blood, both during life and post mortem, gave no reaction for melanin with nitric acid or perchloride of iron. Microscopically sections of the liver at the parts infiltrated with tumour growth presented the appearance of a melanotic sarcoma, composed chiefly of pigmented spindle cells. The white nodules of tumour-growth presented the appearance of a non-pigmented spindled-celled sarcoma.

Remarks by Dr. WILLIAMSON.—The clinical diagnosis of melanotic sarcoma of the liver was practically certain, being based on the history of removal of one eye for tumour growth, the enlarged liver, and the presence of melanogen in the urine which gave the black coloration with nitric acid and perchloride of iron. In the *Medical Chronicle*, October, 1899, I recorded a similar case of melanotic sarcoma of the liver secondary to a primary growth in the eye, and also a case of multiple melanotic tumours of the brain secondary to a pigmented tumour of the skin: both of these cases were under the care of Dr. Graham Steell at the Manchester Royal Infirmary, where I had the opportunity of observing them when medical registrar.

With reference to the clinical diagnosis of melanotic tumours of the internal organs, it is interesting to note that they are usually secondary to primary disease of the eye or skin. Hence superficial inspection of the patient often furnishes the most important indication in diagnosis. The absence of one eye and the history of its removal for tumour, or the presence of a pigmented scar in the skin, and the history of the removal of a dark-coloured tumour of the skin often indicate the correct diagnosis. The presence of small pigmented patches or small pigmented tumours in the skin is another point of diagnostic value. These patches or small tumours are deep-black or bluish-black in colour. They were absent in the case recorded above, but were present in the two other cases which I published 12 months ago. The liver, when affected by secondary melanotic tumour, is often very greatly enlarged, especially when the primary growth is in the eye. In the case just recorded the liver weighed 13¼ lb.; in the other case previously published it weighed 16¼ lb. Ascites was absent in both of the cases I have seen. In one of the cases jaundice was entirely absent; in the other it was absent until the last day of life, when there was a slight yellow tinge of the conjunctivæ. In both cases pain was absent for a long period at first.

In two of the three cases which I have examined the urine contained melanogen and gave the reactions for melanin—a deep black-brown coloration with nitric acid and a deep black coloration with perchloride of iron. With respect to the diagnostic value of melanuria, it may be here mentioned that the same marked reactions are said to be obtained occasionally, but very rarely, in the urine in wasting diseases, when no melanotic sarcoma is present. But since nitric acid is used so frequently in urine testing the occurrence of such a marked black-brown reaction must be extremely rare, or it would have been recorded more frequently. The blue reaction with nitro-prusside of sodium, liquor potassæ, and acetic acid is not due to melanin but to some other substance.

When the reactions for melanin are obtained in the urine with perchloride of iron and with nitric acid there is always a strong probability that melanotic tumours are present in the internal organs. This probability is increased and the diagnosis is almost certain if there is in addition (1) great enlargement of the liver, (2) if small pigmented patches or tumours are present in the skin, or (3) if there is a history of the removal of one eye for intra-ocular tumour, or of the removal of a pigmented tumour of the skin. When the urine does not give the reactions for melanin the diagnosis of melanotic tumours is still indicated if, along with symptoms of tumour growths in the internal organs, there are scattered small black patches or nodules in the skin (as was the case in the melanotic tumour of the brain already referred to).

Medical Societies.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A MEETING of this society was held on Dec. 7th at the West London Hospital, Dr. F. SCHACHT, the President, being in the chair.

The minutes of the last meeting were read and confirmed and several new members were elected.

The PRESIDENT said it was his sad duty to allude to the death of one of the society's vice-presidents, Dr. Symons Eccles. He had held every office in the society and the members were well aware of the energy and enthusiasm which he put into the work of the society and he was sure that they would all feel his loss. He, together with the two secretaries and the treasurer and editor of the journal, had attended Dr. Eccles's funeral as representatives, and he proposed that the meeting should pass the following motion:—

That this meeting desires to record the loss sustained in the death of Dr. Symons Eccles, one of its vice-presidents, and wishes to convey to Mrs. Eccles its sincere sympathy.

This was carried in silence.

Dr. LEONARD DOBSON then showed a case of Raynaud's Disease. The patient was a man, aged 45 years; he had always been healthy until he had an attack of influenza seven years ago. He shortly afterwards lost all his money and lived a life of great anxiety and privation. He first noticed that his hands became cold and the fingers suppurated. The disease rapidly became worse and now the hands were always cold, were bluish in colour, and the finger-tips were ulcerated in the winter. The disease was symmetrical and the thumbs were not affected. One ear was becoming affected, but the feet were not attacked. The hands were worse after exposure to cold or after a meal; they then became first white and afterwards purplish black. The urine was normal; the discs were normal; there was no specific history. He was at present being treated with galvanism and strychnia and was improving.—Dr. DOBSON, in reply to questions from Dr. SEYMOUR TAYLOR and others, said that his patient had not suffered from oxaluria or hæmoglobinuria. He had not yet tried liquor trinitri as the patient was satisfied with his present treatment.

Dr. TAYLOR showed a case of Transposition of all the Viscera in a male. He thought that the cause of this was very obscure, but gave as a theory that the man was possibly a twin, the other twin being possibly a blighted ovum, and that if the twins were of the same sex that there might have been a longitudinal segmentation of the cells of the embryo.—Dr. ROSS SINCLAIR also showed a girl who was the subject of Transposed Viscera.—Dr. TAYLOR said that he noticed in the girl's case that the position of the cæcum and sigmoid flexure was unaltered.—Dr. ROBINSON said that he had examined the sister of the male patient and found a complete absence of the vagina, the uterus, and the ovaries.—Mr. G. PERNET could not accept Dr. Taylor's theory of the cause and noted that neither patient was left-handed.—Dr. PORTER said that he had seen a large number of twins but had never noticed this condition.—Dr. A. H. CLEMOW remarked that the cavities of the heart in the girl's case were not transposed.—Dr. TAYLOR, in reply, said that the children had not been examined. He admitted that his was only a theory, but it was the only one which would explain these cases.

Mr. H. CARRÉ SMITH showed two cases of Spastic Paraplegia (sisters), one aged 16 years and the other six years. The elder girl developed the disease at the age of five years and now had the characteristic gait and rigidity. The knee-jerks were exaggerated and ankle clonus was marked. She

had incontinence and was also mentally deficient. The younger child developed symptoms as soon as she commenced to walk. The father and mother were first cousins and healthy. Between these children the mother had had seven other children, all born at the seventh month and all of whom died. She had also had three miscarriages. Instruments were not used. Mr. Smith added that there were no signs of congenital syphilis in either patient, but thought that this must be the cause.—A discussion followed in which Dr. TAYLOR, Dr. CROOKSHANK, Dr. TINDAL ATKINSON, Mr. G. PERNET, and Mr. C. B. KEETLEY took part, and in reply Mr. SMITH said that no nystagmus had been observed. He was treating the cases with iodide of potassium.

Mr. KEETLEY showed a New Method of Treatment in Disease of the Hip-joint. The patient, a girl, had had the disease for a long time. Mr. Keetley operated and removed the head of the femur and surface of the acetabulum. The skin around became infected with tuberculous ulceration, leaving a huge wound. A second operation became necessary and when removing the tuberculous material from the skin he opened up the joint again by means of a longitudinal and transverse incision and scraped out the joint. He then laid a number of Thiersch's grafts on the wound and some of these he put right into the joint. The result was very good, the joint closed up at once, and within a month the surface was healed, the grafts in the joint being pushed to the surface.—Mr. PATON thought that Mr. Keetley's method was very gratifying and successful, as it did away with all tubes.

Dr. P. S. ABRAHAM showed a case of Lichen Planus in a man, aged 40 years. The eruption practically covered the body—the pruritus was very severe. He was previously healthy but had suffered from carbuncles. He was being treated with arsenic.—Dr. DOBSON thought that arsenic was useless in these cases and advocated morphia and nerve sedatives.—Dr. A. WHITFIELD agreed that internal nerve sedative treatment was much more important than arsenic.—Dr. ABRAHAM, in reply, said that he was not at all a believer in arsenic in these cases, but that sometimes it was very successful. He also used morphia and thyroid gland.

Dr. J. B. BALL showed a case of Warty Growth just within the ala nasi in a female. It had existed for 12 months and was slightly ulcerated. The cause was doubtful. Lupus and rodent ulcer had been suggested, but he should remove the growth and examine it.—Dr. WHITFIELD thought that the growth was epithelial in nature, as the mucous membrane was not attacked.—Mr. PERNET thought that the case was one of rodent ulcer.—Dr. ABRAHAM also agreed that it was probably rodent ulcer.

Mr. DUNSTAN BREWER showed a microscopical specimen of the Lung of a Mouse showing bacillus pestis *in situ*.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

THE third ordinary meeting of this society was held on Dec. 19th, Mr. A. G. MILLER, the President, being in the chair. The meeting was devoted to clinical demonstrations.

Dr. R. MCKENZIE JOHNSTON presented a patient in order to elicit a diagnosis. The patient, a man, aged 24 years, had a large Growth in the Left Tonsil extending up to the middle line. He was perfectly healthy otherwise. About two months previously he began to suffer from slight and occasional dysphagia, fluid then regurgitating through the nose. He had no pain, but four months ago it was noticed that he spoke somewhat thickly. The growth was perfectly smooth and had no tendency to ulceration, though it bled rather freely on touching. Owing to the rapidity of its growth Dr. Johnston thought that it was a lympho-sarcoma.

Dr. BYROM BRAMWELL exhibited the following:—1. A case of Aneurysm of the Thoracic Aorta successfully treated by Iodide of Potassium. The case was important because Dr. Bramwell had never yet seen any such case so thoroughly cured. The patient was an old soldier, aged 68 years, who was discharged from the army when he was aged 28 years because of disease of the left elbow-joint. The arm was amputated through the upper third of the humerus. He then worked as a labourer until 24 years ago when he developed well-marked symptoms of thoracic aneurysm—e.g., shortness of breath, dysphagia, and pain. Under the care of Dr. G. W. Balfour in the Old Royal Infirmary and treated with iodide of potassium these symptoms were completely relieved. He then began hawking goods, walking from 10 to 20 miles daily and carrying a pack weighing from 20 to 40 lb. He kept at this work constantly for 24 years. A few months ago he began to suffer from pain in the chest, apparently shooting down the left arm, and from cough and expectoration, together with some changes in the lung (no tubercle bacilli were present). There was only a slight prominence, but a well-marked pulsation in the second left interspace. The dulness on percussion was not absolute, but diminished outwards from this centre. The second aortic sound was accentuated and there was a difference in the carotid pulses. The diagnosis made 24 years before had proved to be correct and Dr. Bramwell had never seen a patient with this disease living so long while doing such arduous work. The dysphagia which was present when first treated was, in Dr. Bramwell's experience, usually a near precursor of the end. 2. Three patients in whom great improvement had resulted from the Treatment by Coördinated Exercises by Fraenkel's Method. Such a treatment had not been employed to any extent in this country and had been brought under Dr. Bramwell's notice by his son, Dr. Edwin Bramwell. The first two cases were those of women who a month ago exhibited marked symptoms of tabes, not being able to walk without assistance from another person, but now both could walk fairly well and turn without difficulty. The third case occurred in a man who had been under observation for several years and had suffered from the ordinary typical manifestations of tabes, including gastric crises. He also had been under treatment for a month with a notable improvement. In many cases of locomotor ataxy this method of treatment produced very decided improvement.

Mr. H. ALEXIS THOMSON exhibited a boy, aged 15 years, showing the Result of Resection of the Middle Two-thirds of the Tibia for Central Abscess. Eight years previously the boy had suffered from osteomyelitis affecting the lower end of the femur on the left side and also the right tibia. He recovered perfectly from this except that the tibia was thickened and arched forwards. Eight months ago he presented himself again with all the characteristic symptoms of Brodie's abscess of the right tibia. The middle two-thirds of the bone were removed subperiosteally and the tibia reformed itself well within three months. Specimens were shown.

Mr. J. SHAW MCLAREN showed:—1. Two cases of Psoas Abscess after Treatment by the Injection of Iodoform Emulsion. His method of treatment was to evacuate the abscess by puncture and then to introduce a quantity of 10 per cent. iodoform emulsion. The operation was remarkably simple and almost any practitioner could perform it at the patient's home. One successful case shown was that of a girl, aged 17 years, who had suffered from curvature in the lower part of the spine for years with a psoas abscess extending down to Poupart's ligament. Within six weeks of this treatment she was entirely cured. The second case occurred in a woman and in her case the abscess was enormous, extending down to the middle of the thigh; now, however, it had entirely gone. 2. A patient with Tuberculosis of the Left Wrist treated by iodoform emulsion injection. The lad had previously been twice operated upon for disease of the joint, but the condition had manifestly improved under this treatment along with the application of the congestive bandage. 3. A patient after complete Removal of the Tongue and Glands for cancer two years ago.

Mr. HAROLD J. STILES exhibited:—1. A young woman, a servant, after operation for Perforated Gastric Ulcer. She had previously shown slight symptoms of indigestion, but suddenly one morning after breakfast she was seized with intense pain. The operation was performed three and a half hours after the accident and the rupture was found to have taken place high up on the posterior aspect and close to the œsophageal opening. The lesser sac of the peritoneum retained the escaped contents of the stomach and they had not at the time of operation escaped into the general peritoneal cavity. 2. A girl showing Regeneration of Skin, the result of skin-grafting, after entire avulsion of the scalp. Much difficulty had at first been experienced in getting the grafts to grow and the best plan which Mr. Stiles had found was to lay on a graft about two inches square (after scraping off the granulations and arresting the bleeding), covering this with a sheet of perforated protective and finally a piece of sterile gauze smeared over with vaseline. The entire scalp was now restored with the exception of two or three tiny areas. 3. An infant three months after

Removal of a Large Occipital Meningocele 16½ inches in circumference. The tumour was larger than the child's head and sprang from a narrow opening in the bone just below the occipital protuberance. The pedicle measured five and a half inches in circumference. Mr. Stiles said that in order to prevent escape of cerebro-spinal fluid the cicatrix should be made very firmly and this he accomplished by making the skin flaps so large that they could be flatly approximated together and a double layer of sutures could then be passed through them. The specimen of meningocele was shown. 4. An infant, aged four months, after operation for Acute Intussusception. The tumour was very large and was operated on 23 hours subsequent to its formation. Mr. Stiles said that almost all such cases should be treated by operation as the method of attempted reduction by inflation was extremely unsatisfactory. The lower two-thirds of an intussusception were as a rule easily reduced by pushing the bowel from below upwards (after laparotomy), but the upper part was very difficult to reduce and could hardly be done by inflation alone. 5 A boy with Paralysis of the Gluteus Maximus Muscle which was the result, apparently, of acute anterior poliomyelitis.

Dr. ALEXANDER BRUCE and Professor THOMAS ANNANDALE showed a man suffering from Paralysis relieved by removal of the twelfth dorsal lamina. It was a complex case of alcoholic neuritis and injury to the spine in the region of the twelfth dorsal vertebra from a fall down a stair. At the operation a bony projection was found attached to the left lamina of the twelfth dorsal vertebra compressing the cord. This was removed and now his condition was improving, though as the injury happened more than a year ago a good deal of neuritis must have been set up. He had quite recovered from the alcoholic neuritis.

Dr. NORMAN WALKER exhibited two patients.

Dr. ALLAN JAMIESON demonstrated under the microscope the Structure of the Cervical Skin Tumours shown at the November meeting.

Mr. MCLAREN showed: (1) Recent Pott's Fracture; (2) Radiographs of Fractured Internal Condyle; and (3) Fracture of Astragalus with subgaloid luxation of the foot forwards.

Mr. STILES showed: (1) A Portion (three and a half inches long) of a Hatpin removed from a Male Bladder by suprapubic cystotomy; (2) Brain with Abscesses secondary to Head Injury; and (3) Congenital Fatty Tumour from the Axilla of an Infant.

Dr. H. HARVEY LITTLEJOHN showed: (1) Brain from the patient in a case of Apoplexy in which there was partial recovery but suicide by throat-cutting six weeks later; (2) the Cut Throat from the above case; (3) Complete Rupture of the Small Intestine due to a simple fall; (4) Double Uterus; and (5) Acute Inflammation of the Stomach.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Indentations in the Skulls of the New-born.—Eclampsia.

A MEETING of this society was held on Dec. 12th, Dr. R. MILNE MURRAY, the President, being in the chair.

Dr. N. T. BREWIS showed (1) a Fibro-Cystic Tumour of the Broad Ligament; (2) a Uterus removed for Cancer of the Body; (3) a Uterus and Appendages with Ovarian Abscess and Pyosalpinx, resulting from a recent miscarriage; and (4) a Fibromyoma removed by Sub-peritoneal Hysterectomy.

Dr. F. W. N. HAULTAIN exhibited (1) a Fibroid Uterus removed by Pan-hysterectomy; (2) a Superinvoluted Uterus affected with cancer of the cervix and removed by the vaginal route from a patient, aged 29 years; (3) an Extra-Uterine Gestation; and (4) an Omphalopagus Twin Monster, born dead at full time, and weighing 15 lb.

Professor A. R. SIMPSON showed a Ruptured Ovarian Cystoma.

Dr. G. SCOTT MACGREGOR showed a Uterus removed by Vaginal Hysterectomy from a patient, aged 26 years, for early cancer of the cervix.

Dr. G. F. BARBOUR SIMPSON showed a Ring Pessary which had been retained for 25 years in the vagina.

The PRESIDENT exhibited (1) a Dermoid Ovarian Tumour with other Ovary showing a recent Corpus Luteum; and (2) a Myoma of Rapid Growth removed by Hysterectomy.

Dr. MUNRO KERR (Glasgow) read a paper on Spoon-shaped Indentations in the Skulls of the New-born, with illustrative cases, and a New Method of Treatment for the Immediate Relief of the Deformity. This subject had received very little attention in this country; in Germany it was little better; in France, however, it was very different. Ambrose Paré first referred to the deformity and numerous treatises had since appeared on the subject. Indentations of the fœtal skull might either be spoon- or furrow-shaped. The two varieties occurred with about equal frequency. They had, however, not the same significance, for although the conditions producing them were in the main the same the furrow-shaped variety was much less serious and seldom gave rise to much immediate trouble. Dr. Kerr, therefore, considered exclusively the spoon-shaped depressions. The injury, which was usually situated on one or other of the parietal or frontal bones in the neighbourhood of the anterior fontanelle, was by no means uncommon, especially in the city of Glasgow, where rickets was so prevalent among the lower classes and parturition was in consequence so frequently laborious. The accident occurred, with few exceptions, when there was a deformity of the maternal pelvis and generally in women with flat rachitic pelves. The extent of the deformity need not be extreme; most commonly it was just sufficient to cause a moderate degree of obstruction to the passage of the head. In the great majority of the reported cases delivery was completed by traction, either on the child's head by forceps or on the trunk in breech cases, or after turning. Still, in a small proportion of cases labour ended spontaneously. Rosenski in 43 collected cases found spontaneous birth in only two cases. When deformity existed the indentation was usually caused by the head being pressed against the projecting sacral promontory. Occasionally the anterior pelvic wall, an undue prominence of the iliopectineal eminence, and still more rarely an osseous tumour of the bony canal might be the cause. Some had mentioned lateral deviation of the uterus, ankylosis of the coccyx, and tumours of the soft parts as causes. Defective ossification of the fœtal skull predisposed to the accident. Dr. Kerr in experiment found that he could produce depressions with the greatest ease and with very little pressure in some cases, but in others no indentation could be made even with considerable force. A prolapsed upper limb by narrowing the pelvis might produce a depression. In the majority of forceps cases the indentation was produced by pressure of the head on the promontory of the sacrum and not directly by injury from the blades of the forceps. Occasionally two depressions might be found on the same skull, and the accident had occurred in even five successive births. The prognosis was not unfavourable; in most cases the indentations disappeared in a week or two and gave rise to no immediate symptoms or later ill-effects. In a certain number the depressions resulted in a permanent deformity, and might produce no disturbance or they might give rise to minor nervous storms. Some cases terminated fatally, and in these the symptoms varied. There might be twitchings, convulsions, and paralysis, and quite evidently due to the indentations. In other cases these symptoms might only appear at the end, but the children showed fretfulness, were disinclined to take the breast, and did not thrive. In another group the child was born asphyxiated, and unless the depression was speedily removed the child died despite all other attempts at resuscitation. Schroeder, out of 65 cases, found that 34 per cent. of the infants were stillborn, 15 per cent. subsequently died from the injury, and the rest remained alive, as far as he could find out. In treating the condition exhaust-pumps and cupping-glasses had been advocated or the application of an adhesive plaster and traction exerted on it. Trephining had been successfully performed for this condition. In a case recorded by Boissard there was a large depression on the left frontal bone with protrusion of the left eye. The case seemed hopeless as the heart's action was very feeble. Boissard incised the scalp over the coronal suture, made a small opening through the suture, and passed a sound under the bone between it and the dura mater and pressed up the depression. The child immediately began to breathe and rapidly recovered. Panzani reported a similar case. Surgical interference could not always be immediately practised from lack of instruments, &c. Dr. Kerr had used the following treatment in three cases successfully. The fœtal bones were very resilient, and by experiment on stillborn infants he found that artificially produced depressions could be raised by firm antero-posterior compression of the head. On the living child the indentation came out with a jerk and with a sound as when a dent in a felt hat was removed. In one

case the seriously impaired respiration was immediately relieved after the indentation was removed by this method.—Professor SIMPSON, Dr. D. BERRY HART, Dr. H. M. CHURCH, Dr. JAMES RITCHIE, Dr. W. FORDYCE, and the PRESIDENT made remarks on the paper.

Dr. MICHAEL DEWAR read a paper on a case of Eclampsia at the sixth month with successful labour at full time. The patient was a married primipara, aged 28 years, strong, well-developed, and with no neurotic personal or family history. During her pregnancy she suffered very little from morning sickness and passed the ordinary amount of urine daily; the bowels were constipated. She was very well until suddenly, without any warning, she was seized by a fit and had a succession of eight fits in an hour. In one attack, it was noticed, her face was drawn to the right side; then a long tonic convulsion occurred, succeeded by a series of strong, rapid clonic contractions involving the whole body; the attack lasted three minutes. The urine was drawn off by catheter and found to be free from albumin. Consciousness soon returned after the tenth fit, but she remained somewhat dazed. Next day her urine was plentiful and also non-albuminous. Bromide of potassium and chloral were administered continuously. Four days after the first attack she had a second series of convulsions, seven in number. This time the urine showed a trace of albumin. Three days later she had a third series of fits, three in number; the urine on the following day was found to be free from albumin. She gradually improved after this, though remaining confused in mind. Labour came on at full time and was quite normal and the child was quite healthy. The mother was now very well with the exception of a slightly defective memory; the urine was normal and non-albuminous. In his remarks on the case Dr. Dewar considered the question of the fits, whether they were really eclamptic, as some observers asserted that unless albuminuria was present the case was not one of eclampsia. Convulsions, with or without albuminuria, seemed to be equally dangerous to the mother and child. There were many cases of albuminuria in pregnancy in which no convulsions occurred. There was evidently some subtle condition, as yet unknown, ready under peripheral or other influence to determine whether eclampsia would occur or not. As regards treatment, morphia was contra-indicated as it interfered with the kidney function. Veratrum viride in this case caused intermittency of the pulse and had to be stopped. Saline injection must at first increase the heart tension, which was high enough in these cases. He believed in a little more of the expectant treatment, attending to the bowels and the bladder, with the administration of a bromide and chloral.—Professor SIMPSON, Dr. HAULTAIN, Dr. S. MACVIE, and the PRESIDENT took part in the discussion.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Dec. 7th, Dr. F. W. Silk, the President, being in the chair.—The secretary read a communication from Mr. Wilfred Sars giving particulars of a Recent Fatality under Nitrous Oxide Gas which occurred at the Great Northern Central Hospital and which had been fully reported in the medical journals.—Dr. H. Low and Dr. Dudley Buxton thought that nitrous oxide was always contra-indicated in cases in which there was any impediment of a progressive character involving the upper air-passages, for which cases Dr. Dudley Buxton recommended pure chloroform in preference to ether or any mixture.—Dr. Probyn-Williams related particulars of a somewhat similar case that had occurred at the London Hospital.—Dr. A. H. Cook remarked that in cases of obstructed respiration such as in adenoid growths he preferred the A.C.E. mixture and thought that the cases alluded to pointed to the desirability of promptly performing laryngotomy when the patient's life was found to be in jeopardy from œdema of the glottis.—The President thought that some additional cause of death than mere mechanical obstruction was to be sought in such cases and referred to the comparative frequency with which patients suffering from tonsillitis became faint during or after the administration of nitrous oxide.—Dr. Probyn-Williams then gave particulars of two fatal cases during the administration of an anæsthetic (one ether and one chloroform) in both of which it was shown at the post-mortem examination that the death was really due to a distinct ante-mortem blood-clot becoming detached from the veins and impacted in the right side of the heart.—Dr. Clapham, of the North-Eastern Hospital for Children, read notes of a very similar case occurring in a boy, ten years of age. It was noticeable that all three cases were more or less septic.—Dr. Dudley Buxton welcomed the reporting of these cases to the society and thought that they were important additions to their knowledge. He was of opinion that under certain circumstances the mere disturbance of the circulation which the inhalation of an anæsthetic always entailed, even apart from struggling, &c., would suffice to loosen an already formed clot, and he had seen a small aneurysm quite cured in this way.—Dr. Low also spoke and Dr. Probyn-Williams replied.—The President thanked Dr. Clapham for bringing the case before the society.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on Dec. 20th, Dr. William Watson, the President, being in the chair.—The adjourned discussion on the recent decision of the General Medical Council respecting the sale of drugs and poisons by unqualified drug assistants was continued. An interesting debate took place. In addition to other points brought under review it was shown that by an ordinary interpretation of the word "drugs" which occurs in the indictment any medical man would be held in the same way guilty should his unqualified drug assistant sell such simple articles as Epsom salts or cream of tartar. It was also pointed out that if any breach of the law had been committed the Pharmaceutical Society had power to enforce it in a different court under the Pharmacy Acts, and that the General Medical Council should not have acted as prosecutors. The discussion having been brought to a conclusion the following motions were proposed and adopted:—

1. That this society appoint a committee to draw up a representation to the General Medical Council on the points brought out in the discussion of the case of Dr. Thomson of Airdlie.
2. That the secretary of this society be instructed to call a meeting of the general medical practitioners of Glasgow and the West of Scotland at an early date for the consideration of the action of the General Medical Council in their recent decision regarding the sale of drugs and poisons by unqualified assistants.
3. That the Glasgow Southern Medical Society, believing the direct representation of the general medical practitioners of the United Kingdom on the General Medical Council to be inadequate, humbly petition the Medical Council to represent such inadequacy to Her Majesty's Privy Council in order that the medical practitioners of Glasgow and the West of Scotland may elect an additional representative.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Dec. 12th, Dr. A. T. Wilkinson, the President, being in the chair.—Dr. R. W. Marsden read a paper reviewing the subject of Gall-bladder Infection in Typhoid Fever and exhibited the gall-bladder from a case of typhoid fever. The specimen showed irregular inflammatory thickening of the walls with numerous small ulcerations in the mucous membrane, some of the ulcers being covered with small brownish necrotic patches. At the fundus there were two or three ulcers of larger size, whilst the largest occupied the tip of the fundus, and in the centre of it a perforation was present. Microscopical specimens from the same case were also exhibited. In the section of the wall of the gall-bladder localised newly-formed or inflammatory masses were seen in the connective tissue stroma and not having any apparent relation to the ulcerations. In the section of the liver were areas in which the liver cells had not received the staining fluid used and in which an accumulation of leucocytes had taken place, constituting patches of focal necrosis.—Dr. A. Donald showed: (1) A Bicornute Uterus which had been removed by abdominal hysterectomy immediately after labour on account of a double rupture; and (2) two specimens of Pregnancy Complicated by Fibroid Tumour. In both cases abdominal hysterectomy had been performed.—Dr. F. Villy showed Preparations of the Cardiac Muscle from patients dying from Diphtheria and briefly referred to the significance of the degeneration present.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on Dec. 13th, Dr. M. Benson presiding over a good attendance of members and visitors.—After the routine business a paper was read by Dr. T. Arthur Helme on Some Obstetric Topics under Present Discussion.—The paper was a very interesting one and led to a prolonged discussion, the following members taking part therein: Dr. Benson, Dr. R. P. White, Mr. M. McElligott, Dr. F. Rees, Mr. C. M. Brady, Mr. E. H. Monks, Mr. T. M. Angior, Mr. R. Tarbuck, Dr. W. S. Sinclair, and the honorary secretary.—A cordial

vote of thanks was accorded to Dr. Helme, which he acknowledged.

FOLKESTONE MEDICAL SOCIETY.—A meeting of this society was held on Dec. 7th, Dr. W. J. Tyson, the President, being in the chair.—A deputation of four members was selected to meet the sanitary committee of the Town Council and to discuss a few questions about which the society is concerned.

Reviews and Notices of Books.

An American Text-book of Physiology by Several Authors. Edited by WM. H. HOWELL, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Maryland. Vol. I. Second edition, revised. Philadelphia: W. B. Saunders and Co. 1900. Pp. 598. Price 26*s*.

THE number and variety of the text-books of physiology that have been published during the last few years constitute in themselves an indication of the rapid advances that are constantly being made in this branch of knowledge, each author thinking that his predecessors have left something untold or dealt with various points in a manner on which he could improve. The volume before us seems to be one of the best of such text-books. It is written on the plan of collaboration, different subjects having been committed by the editor into the hands of experts. The editor states in the preface that the collaboration of several teachers in the preparation of an elementary text-book of physiology is unusual, the almost invariable rule heretofore having been for a single author to write the entire book. Of this there is no doubt, and Dr. Howell deserves the credit of being one of the first to select several accomplished physiologists to unite in producing a work that is thoroughly up to date and to resist the temptation of writing chapters that he was himself fully qualified to undertake. The several chapters in the present volume with their authors are the General Introduction, Blood, Lymph, Secretion, Chemistry of Digestion, and Movements of the Alimentary and Urinary Systems, by Dr. Howell; Circulation, by Dr. John G. Curtis; the Innervation of the Heart, by Dr. W. T. Porter; Respiration and Animal Heat, by Dr. Edward T. Reichert; and the Chemistry of the Animal Body, by Dr. Graham Lusk.

In making a study of this work we must say at the outset that we approve of the mode in which the several subjects are presented to the reader. The exposition is clear, the arrangement is good, and the language is lucid and yet concise. The subjects of the blood and circulation are very satisfactorily dealt with, the text including the most recent information and giving some points that are not often mentioned. Thus there is a paragraph on the globulicidal action of the serum in which it is stated that different kinds of serum show different degrees of globulicidal activity and that white as well as red corpuscles may be destroyed. Dogs' serum or human serum is strongly globulicidal to the blood of rabbits. This is not due apparently to variations in the amounts of inorganic salts in solution, since the mere heating of the serum to 55° or 60° C. for a few minutes destroys the globulicidal action, though the other constituents of the serum, as the proteids, do not appear to undergo any alteration. Foreign serum injected into the veins of a living animal may exert a marked toxic effect that can hardly be explained by its globulicidal action, for the injection of no more than from 7 to 14 cubic centimetres of fresh dogs' serum will suffice to kill a rabbit; and then, again, serum is known to exert a similar destructive effect on bacteria, which is termed its bactericidal action. "These three effects of serum—globulicidal, toxic, and bactericidal—seem all to be destroyed at a temperature of from 55° to 60° C., and it is possible that they are all traceable to the existence in the blood of some proteid substance, an alexine which is present in small quantity and is different for each species of animal." Dr. Howell considers that it has been satisfactorily shown that in the adult the organ for the reproduction of the red corpuscles is the red marrow of bones. Here the erythroblasts are formed which multiply by karyokinesis, the daughter cells producing hæmoglobin in their cytoplasm, thus forming nucleated red corpuscles. The nuclei are subsequently lost either by disintegration or more probably by extrusion, and the newly formed non-nucleated red corpuscles are forced into the blood-stream.

Dr. Howell speaks guardedly on the cause or causes of the sounds of the heart, but he seems inclined to admit both a valvular and a muscular element. He mentions, but passes by without comment, the late Sir R. Quain's theory. Dr. Howell seems to doubt whether the dicrotic wave is a reflected wave from the periphery or whether it proceeds from the semilunar valves. We thought that it was very satisfactorily determined to be of central origin and to proceed centrifugally. Amidst all the details of the action of the heart and the characters of the circulation in the several orders of vessels that are here given we fail to find one point of applied physiology that is interesting to every practitioner—the circumstances that prevent a man from bleeding to death if he have the misfortune to inflict upon himself a superficial flesh wound. Dr. Howell deals sensibly with doubtful and disputed questions. Thus in regard to the formation of lymph he points out that two divergent views are held in regard to it. According to some all the facts known respecting the composition of lymph may be satisfactorily explained if we suppose that this liquid is formed from blood plasma by the combined action of the physical processes of filtration, diffusion, and osmosis. According to others it is believed that in addition to these actions it is necessary to assume an active secretory process on the part of the endothelial cells composing the capillary walls. Dr. Howell then gives an excellent summary of the numerous and important experiments of Heidenhain and Starling, and concludes by adopting, provisionally at least, the mechanical theory.

If we turn to such a subject as that of the spleen and read what Dr. Howell has to say upon the functions of that organ, for all details of its structure are rigorously excluded, we shall find that the theories of its purpose in the economy which are in Dr. Howell's opinion most worthy of being considered, though all are unsatisfactory, are that it is a seat of origin for the red corpuscles of the blood; that it is an organ in which the destruction of the red corpuscles takes place; that it is a place where uric acid is generated; and, lastly, that an enzyme is here formed which, carried by the blood to the pancreas, converts the trypsogen contained in the pancreatic cells into trypsin. Of this last theory, propounded by Schiff and supported by Hensen, he only remarks that the experimental evidence adduced by these two observers has not been confirmed by others. We are disposed to think that the conclusions of Schiff and Hensen from their experiments rest on a sounder basis than do those of their opponents.

If we had to find any fault with the work, it would be that such a subject as the kidney and its secretion are considered under several separate heads. For instance, under the head of the urinary organs the terminal capsules of the kidney tubules with their blood-supply are first described, a paragraph on the composition of the urine succeeds, which is followed by an account of the secretion of urine, the elimination of urea and related bodies, the secretion of the water and the salts, and the blood flow through the kidneys; but the student who wishes to know the composition of the urinary constituents must look for it under the account of the Chemistry of the Animal Body, where full and accurate details will be found,

and micturition under yet another heading—the Movements of the Alimentary Canal, Bladder, and Urethra. The same remarks apply to the account of the salivary secretion, which leads to some unnecessary repetition. Illustrations are sparingly introduced. The work is one on which full reliance can be placed as representing the present state of physiological knowledge.

LIBRARY TABLE.

The Physiological Feeding of Infants. By ERIC PRITCHARD, M.A., M.D. Oxon. London: The Scientific Press, Limited. 1900. Pp. 39. Price 1*s.*—Physicians in charge of the out-patient children's department are aware that a large proportion of the little patients are brought under their notice owing to defective feeding, generally due to the ignorance of those under whose care they happen to be. The mothers or guardians are frequently quite unaware that the method of feeding is at fault, and some of them resent the "advice" given to them, having come to the hospital for "a bottle of medicine," which they believe will cure all disorders. The majority, no doubt, thankfully listen to the directions given to them and carry them out to the best of their ability. The physician, nevertheless, is at a disadvantage in giving such instructions. The physiological feeding of infants is by no means an easy matter (supposing that circumstances prevent them from being breast-fed), and in cases of disordered stomachs innumerable difficulties arise. In the pamphlet now before us Dr. Pritchard has made an attempt to lay down certain directions whereby cow's milk can be so modified as to be applicable to the various disordered infantile digestions which are so frequently met with in private and hospital practice. We can congratulate the author on the success of his endeavours. Suggestions are made in many medical text-books, especially in those by American authors, as to the method of altering the percentage of fat, proteid, and sugar which should be given in infants' food; but as a rule the prescriptions are so complicated as to be most difficult to follow. Dr. Pritchard, however, has devised tables giving recipes for preparing milk mixtures of various percentage composition; the quantities, however, are given in ounces and drachms, so that there would be no difficulty in preparing the food. This is an admirable plan and one that will be generally appreciated. A "Physiological Nursery Chart" is also issued, containing a table for registering the weight of the child for many months, a table for preparing modified milk for a healthy infant of average weight during the successive stages of its life from one day to one year, and numerous "directions" and "aphorisms" which cannot fail to be of the greatest value to nurses and mothers. The actual chart is printed on a large card and the specimen before us gives a view of the progress of a child up to the age of two years. The abscissæ of the chart answering to the dates in an ordinary temperature chart are at the top weeks, at the bottom months, so that when the chart has been kept in weeks, beginning from the left hand bottom corner proceeding towards the right, it can be continued by months, starting from the right hand bottom corner proceeding towards the left. The ordinates answering to degrees of the thermometer in a temperature chart show degrees of weight increasing by quarter pounds.

Golden Rules of Skin Practice. By DAVID WALSH, M.D. Edin., Honorary Physician to the Western Skin Hospital. Golden Rules Series No. VIII. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent and Co., Limited. 16mo. 1900. Pp. 102. Price 1*s.*—This little book is one of a series, and therefore has been written to correspond with the other members of that series. It contains many useful hints for treatment and many general "aphorisms" relating to dermatology. The symptomatology and diagnosis are less fully described. The teaching is sound on the whole. We would, however, demur to the following statements: "Incise both boils and carbuncles early. The old-fashioned heroic crucial incisions are nowadays abandoned." It is true that a mere crucial incision is not now used for a carbuncle, but the best treatment is now even more "heroic," for the whole carbuncle is scraped away with a sharp spoon and the denuded surface is swabbed with a strong antiseptic. In the treatment of lupus nothing is said of the value of light, although the use of the Roentgen rays is mentioned.

Minor Surgery and Bandaging. By HENRY R. WHARTON, M.D., Demonstrator of Surgery in the University of Pennsylvania, Surgeon to the Presbyterian Hospital, &c. Fourth edition, thoroughly revised and enlarged. With 50 illustrations. London: Rebman, Limited. 1899. Pp. 594. Price 14*s.* net.—The title of this work does not accurately denote the subjects dealt with, for in addition to those usually comprehended in the title "Minor Surgery and Bandaging," we find included a fairly full account of nearly all the operations performed on the body, even gastro-enterostomy being described. These descriptions, however, are accurate but brief. The chapter on Bandaging is very good, and rather more forms are described than are usually met with in most English text-books. The chapter on Minor Surgery is complete and deals with antisepsis and asepsis, dressings, anæsthetics, trusses, catheters, methods of intestinal anastomosis, treatment of hæmorrhage, and so on. Chapters on fractures, dislocations, and operations are given, and are followed by chapters on amputations, excisions, and special operations. The book is carefully written and should prove very useful to a student of surgery or a house surgeon, and would often be found of value to those in practice. A few slips occur here and there which might be corrected in a subsequent edition.

A Manual of Jail Hygiene for the Use of Medical Subordinates. By Major W. J. BUCHANAN, B.A., M.B., B.Ch., D.S.M., Indian Medical Service, Superintendent, Central Jail, Bhagalpur. Second edition. Calcutta: Bengal Secretarial Press. 1900. Pp. 135. Price Indian Rs. 3; English, 4*s.*—We called attention to the first edition of this very useful little book designed for the information of medical subordinates in an annotation in THE LANCET of June 11th, 1898 (p. 1631), and in welcoming it we said that the subordinate should by its aid not only be able to carry out the orders of the medical officer but to know why those orders were given. We are glad to find that our estimate of this handy little volume has since been ratified by its success and the appearance of a second edition. It has, we understand, been officially adopted in the prisons of Bengal, Bombay, Punjab, Burma, Assam, and the Central Provinces of India. The object and intention which the author had in view in writing the book were excellent and calculated to meet a recognised want, and he has carried them out in a practical and useful way. The progress which has taken place, even in the short interval which has elapsed since its first appearance in January, 1898, has made it necessary to revise some chapters and to alter, and add to, others. The mosquito-malaria theory is simply and intelligently expounded, together with the new methods proposed for an attempted extermination of the mosquito—which probably have a better chance of being carried out in jails than outside them. Additions have also been made to the chapters on ventilation, scurvy, and dysentery, and an appendix on "How to Give Chloroform," by Lieutenant-Colonel E. Lawrie, I.M.S., has been added. The book,

taken as a whole, supplies in a small compass a great deal of practical information set forth in a simple, intelligible style.

Wounds in the Rain. By STEPHEN CRANE. London: Methuen and Co. 1900. Pp. 347. Price 6*s*.—This collection of stories by the late Mr. Stephen Crane is concerned with the Spanish-American War of 1898. The stories are written with all the startling and grim realism which the "Red Badge of Courage" taught us to expect from the writer. Anybody who wants to understand the sort of thing our men have been enduring in South Africa will get a clear idea from reading this book, more especially the chapter entitled "Marines Signalling under Fire at Guantanamo." Take this passage: "The noise; the impenetrable darkness; the knowledge from the sound of the bullets that the enemy was on three sides of the camp; the infrequent bloody stumbling and death of some man with whom, perhaps, one had messed two hours previous; the weariness of the body, and the still more terrible weariness of the mind at the endlessness of the thing, made it wonderful that at least some of the men did not come out of it with their nerves hopelessly in shreds." If this is not the real thing, it should be.

JOURNALS.

The *Practitioner* in its December number provides rather a smaller amount of useful reading than is usually to be found in this periodical. The most important communication, in point of length at any rate, and probably also from other considerations, is a valuable article from the pen of Dr. William Hunter on Oral Sepsis as a Cause of "Septic Gastritis," "Toxic Neuritis," and Other Septic Conditions. There can be no doubt that, as Dr. Hunter insists, the condition of the mouth generally receives too little attention from the medical man. Beyond an inspection of the tongue and fauces the general practitioner is not wont to bestow much care upon oral examination—at any rate, if the nature of the case does not at once point to the mouth as a seat of the original disease. The gums and the sockets of the teeth, however, are quite a sufficiently spacious field for serious septic influences, and it is in this way, as Dr. Hunter shows, as well as by the purely mechanical effects causing inefficient masticatory power, that the diseases of the teeth or of the tissues in their neighbourhood may play a very important and entirely unsuspected part in the production of serious disorder. Dr. Hunter's writings on this matter render valuable service by provoking more detailed routine examination of patients' mouths, although some of the remote effects which he traces to oral sepsis must, we think, be more fully proved to own this specific origin before their connexion with oral sepsis as a cause can be admitted with perfect freedom. A clinical lecture on Supra-pubic Cystotomy by Mr. Alfred Willett and a clinical demonstration on the Anatomy of the Spinal Cord by Dr. Howard Tooth are the other original articles of the number. Mr. Willett details some instructive cases. He is sceptical as to the value in diagnosis of the cystoscope, and we believe that most surgeons will agree with him that increasing familiarity with the use of this instrument does not afford the advantages that were looked for. In the Roentgen rays, too, Mr. Willett fears that surgery of the bladder will find no aids to diagnosis and we are not aware of cases that controvert his opinion. The "Medico-literary Causerie" deals with "Poisoners, Old and New," and is entertaining if somewhat lurid reading. A novelist of sensation hard put to it for a good story might very profitably consult the pages of this department of the *Practitioner*. We are comforted in reading it to reflect that the methods of analytical chemistry are nowadays so much more effective and far-reaching than they were when the poisoners of the seventeenth century flourished. Under the heading Public Health there is a very instructive account of clinical experiments carried out by M. Grancher in the Hôpital de la Rue de Sèvres at Paris to prevent the introduction and spread of infectious diseases among children in hospital. The methods employed are based upon the theory that infection is conveyed from patient to patient by direct contact or by indirect contact by means of the attendants—viz, nurses, students, and physicians. The infant patient is isolated in a sort of box and removed from the ward, and a strict *régime* of antisepsis and clothing is adopted by attendants who are brought into contact. The measures appear to be highly successful, and we recommend the detailed account of them to the perusal of our readers. The "Review of Medical Sciences" deals with bacterial and electrical therapeutics, with midwifery, and with dental surgery, the article upon the last subject touching on ground more thoroughly worked out in the writings of Dr. William Hunter to which we have already referred.

ASYLUM REPORTS.

Roxburgh, Berwick, and Selkirk District Asylum (Report for the Year ending May 15th, 1900).—The average number of patients resident in the asylum was 292 and comprised 134 males and 158 females. During the year 60 patients were admitted, of whom 33 were males and 27 were females. Of these, 15—viz., five males and 10 females—were not first admissions. Dr. J. Carlyle Johnstone, the medical superintendent, states in his report that owing to want of accommodation all private patients are now refused admission, except such cases as cannot possibly be provided for elsewhere. Among the cases admitted hereditary predisposition to mental disorder was ascertained to exist in 40 per cent., while suicidal tendencies were present in 37 per cent. Indeed, half of the patients with suicidal tendencies had made serious attempts to terminate their lives before admission to the asylum. 50 per cent. of the admissions suffered from some form or other of serious bodily disease. 11 patients were the subject of heart disease, five had phthisis, five had epilepsy, while eight patients were over 70 years of age on admission. "In only a small percentage of the admissions was there any prospect of recovery." During the year 18 patients were discharged as recovered, or 6·1 per cent. of the average number resident. The deaths during the year amounted to 25, or 8·5 per cent. as calculated on the same basis. Of the deaths one was due to rupture of the aorta, four to cardiac disease, five to influenza, five to phthisis, one to suicide by hanging, and one to suicide by taking carbolic acid. A severe epidemic of influenza visited the asylum in January and February, 1900; 30 per cent. of the patients and 40 per cent. of the staff were attacked, the latter making good recoveries. The necessity of increasing the accommodation for male patients is becoming every year more apparent, the present condition of things—viz, the absence of such accommodation—being "productive of much anxiety and unpleasantness." The asylum committee state in their report that the expenditure for the past year upon the asylum buildings, furniture, and the like amounted to £3983 5*s*. The statement of garden receipts and expenditure shows a net profit on the year of £115 12*s*. The Commissioner in Lunacy states in his report that "a larger and better-equipped hospital section for male patients is much required, as the present male sick-room accommodation is both inadequate and unsuitable." The number of attendants and servants who have been engaged during the year is 13, the number who resigned is seven, and the number dismissed is five. The patients bear evidence of being well cared for, and the books and registers were examined and found to be regularly and accurately kept.

MUNICIPAL CONTEST IN GATESHEAD.—The election for the seat on the Gateshead Council rendered vacant by the death of the ex-Mayor took place before Christmas. There were four candidates and the seat was gained by Dr Alfred Cox, Cotfield House, Bensham.

THE LANCET.

LONDON: SATURDAY, DECEMBER 29, 1900.

THE ANNUS MEDICUS 1900.

MEDICINE AND THERAPEUTICS.

AMONGST the many diseases which have been particularly studied during the past year two stand out more prominently than the others owing to the number of observers who have been at work in investigating their origin, mode of spread, and possible prophylaxis—these two maladies are malaria and plague.

Malaria.

Nearly six years ago Dr. PATRICK MANSON brought forward the theory that a certain species of mosquito is the carrier of the malarial parasite. This suggestion has passed the stage of surmise and it may now be considered as a fact. The investigations of Dr. PATRICK MANSON, Professor CELLI, Professor GRASSI, Professor KOCH, Professor BASTIANELLI, Professor BIGNAMI, Major R. ROSS, I.M.S., and others have proved beyond doubt that malaria is conveyed and spread by means of certain species of mosquito, and that the essential link in the life-cycle of the parasite—the means by which its existence is assured from year to year, in Italy at least—is malarial man. The period of the year at which malaria is most prevalent corresponds to the times at which the mosquitoes are most numerous. Older observers had noted that malaria was most likely to be contracted about sunset and at night. The anopheles lies hidden by day and pursues its search for food at night. Again, the old observers were aware that the "miasm" was often very limited and did not extend to any great elevation. Naturalists know that the mosquito does not fly far from its birthplace or mount high in the air. The various forms of the malaria parasite have been demonstrated in the bodies of the anopheles. An experimental proof of this theory was established by Mr. P. THURBURN MANSON, who submitted himself to be bitten by some mosquitoes of this species which had been forwarded to England, with the result that he became infected with an attack of tertian fever. Experiments equally important were carried out by Dr. L. SAMBON and Dr. G. C. LOW, Signor TERZI, and two Italian servants in the Roman Campagna at a spot known to be intensely malarial. By taking every precaution against the bite of the mosquitoes they remained entirely free from infection, in marked contrast to their neighbours, who were either ill with fever or had suffered malarial attacks. Most of the investigations hitherto carried out have been confined to the malarious districts of Italy. Whether the same results will be obtained in other parts of the world remains to be seen. In many regions in which malaria is prevalent it is probable that equally satisfactory results will be arrived at. It has been shown that if due precautions are taken a great degree of protection can be obtained. The importance of such knowledge can scarcely be over-rated. It is possible, however, that in some districts we have to do with a different disease to the "malaria" that is found in Italy, and that we must seek some other means of its spread than in the anopheles. Interesting experiences have also been related by Professor ANGELO CELLI as the results of experiments carried out in Latium.

Plague.

Plague has appeared in many parts of the world during the year, and thus additional importance was attached to the report of the Indian Plague Commission, especially with that part which deals with the value of Mr. HAFFKINE'S system of preventive inoculation. The conclusions at which the Commissioners arrived are briefly that inoculation sensibly diminishes the incidence of attacks and the case-mortality in those persons who have been inoculated. The inoculation, however, does not appear to confer any great degree of protection within the first few days after the operation has been performed, though it ultimately confers protection which lasts for a number of weeks—possibly for months. The varying strength of the vaccine employed apparently had no great effects upon the results hitherto obtained, and the true value of Mr. HAFFKINE'S method will probably not be thoroughly tested until after an accurate method of standardisation has been devised. In the report of the Commissioners the method of preparing the vaccine was fully discussed, but it is obvious that much yet remains to be done before the practice of inoculation with a fluid of this nature will fulfil all the conditions which sound scientific reasoning rightly demands of it. For the present—and this in itself is no small achievement—the method may justly claim to be a practical success and very nearly, if not quite, to attain to the high ideal of a certain and safe prophylaxis against one of the most deadly of all diseases. Time will doubtless remedy existing defects, and it is regrettable that the members of the Commission contented themselves with merely pointing out the imperfections and the necessity for overcoming them, and did not, with some minor exceptions, make any definite suggestions or recommendations as to the manner in which they should be overcome.

On August 27th and 28th general currency was given to a disquieting report that cases of suspected plague had occurred in Glasgow. The confirmation of the clinical diagnosis was soon forthcoming, and the country was then made aware of the unwelcome fact that after an absence of more than 200 years plague had once more obtained a certain amount of foothold in Great Britain. The original cases of imported plague could not be traced, but as soon as the diagnosis was established the whole forces of resistance at the disposal of the municipality of a great city, organised by one of the best public health departments which we possess, were at once brought into action. The procedure adopted—prompt hospital isolation, medical house-to-house visitation, formation of "cleansing areas," search (with the aid of bacteriology) for cases bearing suspicious similarity to plague, observation of "contacts," along with other administrative measures—soon had a marked effect, and the outbreak was speedily brought under control. A more extensive outbreak of the disease occurred in Sydney, Australia. The first case appeared on Jan. 27th, and up to July 28th there had been 302 cases and 102 deaths. During the whole of July, however, only six cases were reported, and for the week ending July 28th no fresh cases were notified although one of the patients in the hospital died.

The occurrence of the above outbreaks lent additional interest to the Harben Lectures delivered at the Royal Institute of Public Health by Professor A. CALMETTE, Director of the Pasteur Institute at Lille. In the course of these instructive lectures Professor CALMETTE remarked that it was now impossible to deny that the use of anti-plague serum as a preventive measure had been proved to be an excellent means of preventing propagation of plague in an affected centre, as by its means persons exposed to the contagion would be rendered absolutely and immediately immune. Unfortunately the immunity thus obtained was of short duration, and it was therefore necessary during an epidemic to repeat the injection every

week. The differences in the results thus obtained by Professor CALMETTE and those produced by Mr. HAFFKINE'S method are remarkable. Professor CALMETTE, indeed, alluded to the latter, but remarked that "this method was, however, open to some objection."

Anti-typhoid Inoculations.

The success of anti-typhoid inoculations is unfortunately by no means insured, and we must await the official returns from South Africa before arriving at any conclusion on the subject. In the early part of the year Professor A. E. WRIGHT, of the Army Medical School, Netley, published a paper on the Results which have been obtained by the Anti-typhoid Inoculations. His statistics, however, did not include a large number of cases, and although the results might be characterised as encouraging, yet a far larger number of cases will have to be analysed before any decision is arrived at. The experience of our troops in South Africa has been the severest possible test of the value of the inoculations, and the opinions of the medical officers who have had only too many opportunities of observing how far the inoculations protect men from attacks of typhoid fever are universally awaited with the greatest interest and anxiety.

Epidemic Diarrhœa.

The subject of epidemic diarrhœa has been brought prominently before the medical profession during the past year. Dr. F. J. WALDO chose it for his Milroy Lectures. Epidemic diarrhœa—to choose one of its many synonyms—is one of the chief causes of the vast infantile mortality which has hitherto eluded the control of the public health reformer. Its etiology has not been definitely established. Dr. WALDO, from the analysis of a vast array of statistics, arrived at the conclusion that diarrhœal diseases are first and foremost the result of strictly local conditions; another suggestive feature in the history of the malady is the fact of its vastly greater incidence upon hand-fed as compared with breast-fed infants. Dr. WALDO suggests that epidemic diarrhœa is probably due in no small measure to the pollution of street-dust by horse-dung. This theory would account for the disease being more prevalent in towns and amongst hand-fed children, since milk, which forms the staple article of infantile diet, is freely exposed to invasion by town dust, both in the shop of the retailer and in the larder or cupboard of the consumer. In connexion with this same subject the Home Counties Branch of the Incorporated Society of Medical Officers of Health made a sound request when they asked the Royal College of Physicians of London to appoint a committee to deal with the question of nomenclature in connexion with the certification and classification of "diarrhœa deaths." This request was acceded to and there is now an official name for the disease.[1]

The Open-air Treatment of Tuberculosis.

Many observers have reported on the treatment of pulmonary tuberculosis by the "open-air" method. This therapeutical measure seems to meet with increasing favour, and numerous sanatoria for the reception of phthisical patients are being built in different parts of the country that offer satisfactory sites in reference to exposure and soil.

Yellow Fever.

An interesting report on yellow fever was issued by Dr. WASDIN and Dr. H. D. GIDDINGS, of the Marine Hospital Service, Washington. They were deputed to study the etiology of yellow fever with special reference to Professor SANARELLI'S claim to the discovery of the specific bacillus of that disease. They came to the conclusion that there can be no doubt that the bacillus icteroides is the causal agent of yellow fever and they also are of opinion that infection takes place by the respiratory tract and not, as has generally been held, by the alimentary canal. Other experiments of the Commission proved that the bacillus icteroides is very susceptible to the action of bactericidal agents.

The Purity of Glycerinated Vaccine Lymphs.

During the year we published a report of a Special Commission which we appointed to investigate the purity of various glycerinated calf vaccine lymphs at present in use. The general result of the inquiry, which was based on the application of the bacteriological test employed on several occasions and to different samples of the various commercial "lymphs," was the gratifying one that as regards their purity—i.e., freedom from harmful bacteria—very many of these samples were good. About half the samples were above the standard of the lymph supplied by the Local Government Board.

Rabies.

Professor J. ROSE BRADFORD in delivering two lectures on rabies brought forward many valuable facts in relation to that disease, referring more especially to its nature, symptoms, and diagnosis. His remarks on incubation, though brief, were full of interest. He observed that most authorities are agreed that in man the incubation period lies between 20 days as a minimum and 60 days as a maximum, and that it is rare after three months and very rare, if not unknown, after six months. In cases which have been recorded after as long a period as 18 months the time has probably been reckoned on an erroneous basis.

"The Fourth Disease."

In publishing a paper under the title of "On the Confusion of Two Different Diseases under the name of Rubella (Rose-rash)" Dr. CLEMENT DUKES has done good service to the profession, and indirectly to the public. To the mind of many observers Dr. DUKES has shown conclusively that there exists a disease which so nearly resembles scarlet fever as to have been frequently mistaken for it even when the opportunity has occurred of observing a multiplicity of cases. Whether this affection is specifically distinct, and not a form of German measles as is currently believed, is a point concerning which for the present judgment must be suspended. It is sufficient to say that Dr. DUKES made out a strong case for his theory. Future observations should determine the truth.

The Bacteriology of Scarlet Fever.

Further investigations have been made as to the bacteriology of scarlet fever by Dr. CLASS; and although it cannot be said to be proved absolutely that the diplococcus discovered by that observer is the specific germ of scarlet fever much evidence points in this direction. The streptococcus recently described by Professor ADOLF BAGINSKY and Professor PAUL SOMMERFELD as constantly present in the throat secretions and blood of patients suffering from scarlet fever may possibly be the same microbe as that discovered by Dr. CLASS, but the last named has pushed his investigations much further than have the German observers.

Scurvy.

Contributions on scurvy expressing rather conflicting views have been published by Mr. F. G. JACKSON and Dr. VAUGHAN HARLEY, Staff Surgeon W. E. HOME, R.N., and Professor WRIGHT of Netley, the latter maintaining that scurvy is a condition of acid intoxication very similar to the acid intoxication which can be experimentally produced in herbivora by the injection of a surplus of mineral acids.

Diabetes.

Useful and interesting work has been accomplished by Dr. F. W. PAVY and Dr. R. SAUNDBY on diabetes. Dr. PAVY dealt more particularly with the disease in its varied manifestations under the heading "Differentiation in Diabetes," in a paper read at the Thirteenth International Medical Congress held in Paris on Fundamental Points connected

[1] See Annus Medicus, Royal College of Physicians of London, p. 1906.

with the Pathology of Diabetes Mellitus. Dr. SAUNDBY, in a paper read before the Gloucestershire Branch of the British Medical Association at Cheltenham, referred more especially to the treatment of the disease, laying stress on the necessity of frequent examination of the urine in order to obtain information as to the quantity of carbohydrate food that the patient might advantageously take.

Lectures at the Colleges and Societies.

The various official lectures delivered during the year have been of the greatest interest. Dr. P. HORTON-SMITH delivered the Goulstonian Lectures before the Royal College of Physicians of London, taking as his subject the Typhoid Bacillus and Typhoid Fever. He discussed the various forms of microbes which might be mistaken for the pathogenic micro-organism and the different tests which have been prepared to distinguish them, and also showed a desire to reform our present classification of the disease.

The Lumleian Lecturer at the same College was Dr. W. B. CHEADLE who selected as his theme Some Cirrhoses of the Liver. His remarks on prognosis and treatment were particularly noteworthy.

The Croonian Lectures were delivered by Dr. F. W. MOTT, the subject being the Degeneration of the Neuron. The amount of matter condensed into these lectures was immense and well illustrated the extent of the change in our conceptions involved in the new doctrine of the neuron and also indicated that at the present time research is only laying the foundations on which the superstructure of knowledge must be built.

The Bradshaw Lecturer at the Royal College of Physicians of London was Dr. ARCHIBALD E. GARROD. His investigations on the Urinary Pigments in their Pathological Aspects have been deep and thorough and he proved that in certain cases the examination of the colouring matters of the urine may afford information of real diagnostic value which is not readily obtained in other ways.

Dr. NORMAN MOORE'S Hunterian Lecture, delivered before the Hunterian Society, on the Clinical Study of Heart Disease, contained numerous practical points of great value in clinical work, whilst Dr. R. MAGUIRE in the Harveian Lectures delivered before the Harveian Society, dealt with the principal points in the prognosis and treatment of Pulmonary Tuberculosis, the experiments which he had made upon animals and upon himself as to the effects of remedies administered intravenously being especially noteworthy.

The Hygienic Treatment of Tuberculous Diseases.

In reviewing treatment during the year 1900 attention may justly be directed first to the development of those means which claimed our chief attention in the preceding year. The hygienic treatment of tuberculous disease in its various forms has passed from the phase of controversy and ardent partisanship to that of definite trial on our own soil, and important conclusions have already been arrived at, both as to the best means of carrying out the method and as to the particular types of case which may be expected to respond satisfactorily or otherwise. Whatever may be finally settled by a comparison of results in regard to the relative value of different climatic conditions it has been pretty well established that the essentials of open-air treatment are at hand in most districts of Great Britain and Ireland. The physical conditions which offer the greatest difficulties to the practical therapeutist and are the most prejudicial in recent experience to the patients are heat and wind, and these are not more prevalent here than in most parts of the continent. Among the types of case regarded as unfavourable for a somewhat rigorous course of treatment, in which exposure and over-eating constitute the most prominent factors, are chronic forms and those complicated with catarrh of the bronchial or gastric mucous membrane. Besides these, acute cases and such as are attended with complications do better by postponing the course of hygienic treatment till the more active manifestations have subsided. It has been found that many forms of tuberculous disease other than phthisis, particularly those affecting the skin, bones, joints, and serous membranes, may be beneficially influenced by open-air treatment, and the same may be said of many general diseases such as anæmia, cachexia of various kinds, and even the acute fevers and functional nervous disorders; the feeling of well-being, increased appetite, and improved sleep resulting from systematic exposure reacting favourably on all these conditions. There is no doubt that a well-organised institution under a firm and judicious chief affords many of the advantages of foreign travel and residence without the vicissitudes, defective dietary, fatigue, absence of good continuous medical advice and supervision, and separation from friends which detract so much from this manner of treating invalids. The apprehension of the sick lest they should be ill, or perhaps die, far from home which has deterred many from trying the effect of a sea-voyage or foreign residence is removed by the institution of sanatoria at home.

The Use of Gelatin Solution to Increase the Coagulability of the Blood.

Gelatin solution injected into the subcutaneous tissue or administered by the mouth or rectum has been recommended as increasing the coagulability of the blood. The preparation employed consists of 1·5 per cent. gelatin in 0·7 per cent. solution of sodium chloride, of which as much as 250 grammes may be employed at one time, the injection being repeated at intervals of a week in cases of aneurysm for from 12 to 18 weeks. PINSUTI of Rome prefers a 30 per cent. solution with 2 or 3 per cent. of carbolic acid injected deeply in three-gramme doses, as being less painful. LANCEREAUX and PAULESCO report favourably of the method in some cases of aneurysm, but owing to the difficulty of determining whether these are sacculated or diffuse before applying the remedy great difference of opinion has been expressed as to its value. In some instances it has proved ineffectual, or actually injurious by extension or displacement of the clot. This objection has not been raised against its use in cases of spontaneous hæmorrhage such as occur in various blood diseases, nor in those instances in which it has been employed for internal hæmorrhage from ruptured vessels out of the reach of surgical interference. As a topical remedy also in cases of epistaxis, gastric ulcer, and uterine hæmorrhage gelatin solution has been employed with greater efficacy and less risk. The solution, of course, needs to be carefully sterilised and judiciously applied, but there is a wide field in which such an agent might prove of great value and even the only available resource, besides rendering possible by its preliminary adoption operations which could not otherwise be undertaken, as in cases of hæmophilia.

Operative Measures in Medical Cases.

In the development of operative interference in medical cases the value of laparotomy in tuberculous peritonitis has been established. Recoveries have been recorded both in instances of doubtful diagnosis and after exploratory incisions, where the tuberculous nodules have been recognised and the patients have subsequently recovered, not merely from the operation, but from the constitutional disease. Following upon these a number of cases have been intentionally explored with advantage statistically as compared with those treated on simple medical lines. The ascitic form is that which derives the greatest benefit, but the dry adhesive and the ulcerative

suppurating forms also do well. The dry ulcerative and the miliary forms of tuberculous peritonitis do not lend themselves to treatment by laparotomy, and absolute contra-indications to the operation are found in advanced pulmonary tuberculosis, intestinal tuberculosis, and pronounced cachexia. On the other hand, absolute indications in favour of operation are intestinal obstruction or perforation and suppuration. As a less severe measure in the same direction M. BAYLAC at the International Congress of Medicine proposed lavage of the peritoneal cavity with sterilised water at 45°C. Eight cases so treated resulted in five recoveries, while in three others there was only temporary improvement, these having been previously operated upon. In acquired hydrocephalus following meningitis Dr. GROSZ[2] punctured the lateral ventricles through the anterior fontanelle, removing 40 cubic centimetres of fluid from the right and 70 cubic centimetres from the left with recovery of the patient and subsidence of the symptoms.

Drugs.

Among old drugs which have been applied in new directions or in modified forms may be mentioned Dr. BOURGEON'S employment of calomel in daily amounts of from three to six grains as a diuretic in heart disease irrespectively of the presence of dropsy and when there is no albuminuria or diarrhœa. Croton oil in doses of from one-eighth to one-sixth of a minim in a pill with liquorice makes an effective purgative, rarely rejected even in irritable conditions of the stomach, and promoting both peristalsis and secretion, thereby softening and loosening masses which in the pouches of the colon may be retained for weeks undisturbed by the ordinary hydragogue purgatives. This remedy acts efficiently in dilatation and atony of the stomach where other remedies are not absorbed, and proves of great service in stercoræmia, which is at the root of many obstinate functional conditions, such as asthma, migraine, epilepsy, dyspepsia, and the effects of high arterial tension.

Atropine in doses of from one-seventieth to one-fourteenth of a grain have been employed successfully by Dr. BATSCH of Grossenhain in cases of intestinal obstruction where the symptoms were subacute or where there was necessity to temporise. In some cases a single injection sufficed to produce an evacuation, followed by recovery. In others, the injection resulted only in the escape of flatus and a small quantity of fæces, definite relief only following a second injection on the next day.

Aspirin, the salicylate of acetyl, has been used successfully as a substitute for salicylate of soda. The new compound decomposes in the presence of an alkali so that under ordinary circumstances the stomach is unaffected and it is claimed in consequence that the disagreeable by-effects such as nausea and tinnitus are avoided in similar doses, while the anodyne and anti-rheumatic effects are the same.

Quinic acid, found by WEISS to possess the power of restraining the formation of uric acid in the system, has been combined with piperazine which exerts a solvent action. Experiments with quinate of piperazine showed that the diminution in uric acid when from five to eight grammes were administered daily, amounted to from 40 to 50 per cent., its place being taken by hippuric acid. The new drug exerts a great influence over gout and the uric acid diathesis. It is readily soluble and is given in five-gramme doses in two parts daily (30 to 40 grains twice a day).

Among the new derivatives of opium alkaloids heroin and dionin have both proved of value as sedatives, especially in cough. Of the former one-twenty-fifth-grain tabloids are effective, while the latter is given in doses of one-quarter of a grain. The products of coal-tar have furnished kryofin, possessing similar properties to phenacetine. The dose required is from one-half to three grammes (7–45 gr.) daily in divided doses, and its influence is chiefly in reducing temperature and as an anodyne. Pyramidon, dimethyl-amido-antipyrin, like antipyrin, reduces temperature but is thrice as active. The dose is from two to ten grains. It also relieves headache. The use of suprarenal gland has been extended with benefit to rickets and also to exophthalmic goitre. Vicarious action has been proved as regards metabolism between the ovary and thymus, which is further confirmed by the improvement obtained in chlorosis, exophthalmic goitre, and congenital debility by the administration of thymus gland in daily doses of from 15 to 30 grains.

[2] Archiv für Kinderheilkunde, Band xxvii., Nos. 3 and 4.

SURGERY.

Surgery of the Alimentary Canal.

The surgery of the alimentary canal has probably attracted more attention during the present year than any other branch of the subject, and this is to be attributed chiefly to the fact that this portion of the body calls more frequently for surgical aid than does any other part or organ. In March Professor MAYO ROBSON delivered at the Royal College of Surgeons of England three lectures on the surgery of the stomach and a very good account was given of the present state of our knowledge on this subject. One of the most important questions raised by the progress of surgery in this organ is, Should any surgical treatment be applied to ulcers of the stomach when no perforation has occurred? At present the answer seems to be that an ulcer of the stomach does not need surgical interference until medical treatment has been thoroughly tried, but that if it should prove not amenable to medical treatment then surgical treatment is desirable. There are, however, two complications of ulcer of the stomach that require the intervention of the surgeon at an earlier stage. These are perforation and hæmorrhage. The operation for a perforated gastric ulcer has undergone no material change lately, but it is becoming distinctly rarer for the peritoneal cavity to be washed out by a large quantity of water, as was formerly the rule, and it is now more usual for the surgeon to content himself with wiping out so much of the effused material as can be reached. The results are certainly more satisfactory. The treatment of hæmorrhage from an ulcer of the stomach is as yet in a more unsettled state. Though laparotomy has been performed in many instances for acute hæmorrhage from an ulcer of the stomach, yet it is very doubtful if the results of this procedure are at the very least more favourable than those attainable by medical means. When, however, the hæmorrhage is chronic and persistent in spite of the regular employment of suitable medical treatment, then an operation is perfectly justifiable. What operation should be performed it is not so easy to say, but on the whole gastro-enterostomy seems to be the most likely to be of service. The cases of total extirpation of the stomach continue slowly to increase in number. Dr. VIEIRA DE CARVALHO has described in our columns one such case. It is difficult to believe that the necessity for such an operation can frequently arise, and it is not probable that the operation will ever become anything but very rare. The most satisfactory operation for obstructive dilatation of the stomach is not yet fully determined. Pyloroplasty, or the Heineke-Mickulicz operation, does not occupy quite so high a position in the opinion of surgeons as formerly, and its place has been taken in great part by one or other form of gastro-enterostomy. Mr. L. A. BIDWELL described 16 of these cases, for six of which gastro-enterostomy was performed, in three a pyloroplasty, and in three a pylorectomy. Only one patient died, and that death occurred two months after the operation.

Appendicitis still receives much attention and has been the subject of numerous papers during the year. Mr. C. B. KEETLEY has described a method which he is in the habit of

employing for operating in appendicitis. He makes an incision through the anterior abdominal wall above the anterior superior iliac spine and above and parallel to the outer part of Poupart's ligament, dividing everything except the peritoneum, which is carefully raised from the iliac fascia so that the surgeon approaches the deep surfaces of the appendix. Mr. KEETLEY claims that this method may be employed at any stage of an attack. Dr. A. A. WARDEN advocates the method of removal of the appendix which was introduced by Dr. DOYEN. It consists in crushing the base of the appendix, then ligaturing it at the line where it has been crushed, removing the appendix with the thermo-cautery, and then inclosing the end of the stump by means of a double purse stitch.

We have published notes of several cases in which a persistent Meckel's diverticulum has given rise to obstruction of the bowels. This form of obstruction is by no means rare and is commonly met with in patients under 40 years of age. The majority of the patients recover if laparotomy be performed sufficiently early.

Both observation and experiment have demonstrated that removal of a large portion of the intestine is incompatible with life, but it is difficult to lay down any very hard-and-fast line as to how much may be removed with safety. Professor CARL SCHLATTER of Zürich in 1898 removed about six feet of small intestine from a young man and the patient has survived the operation two years, and an elaborate series of observations have been made as to the digestive powers of the patient. It was found that if care were exercised in the choice of food digestion was carried on without trouble and nutrition was well maintained, but that if the diet were unsuitable then digestion was very imperfect and the general nutrition failed.

There have been several successful cases of laparotomy for perforation of the intestine in the course of typhoid fever, and it is now generally agreed that the surgical treatment of this complication offers by far the best chance of a successful issue. In 21 cases in which it was done during the years 1895–1900 three recovered completely, and one other patient recovered from the operation but subsequently died from intestinal hæmorrhage.

Surgery of the Liver.

Although ptosis of the liver was described by CANTANI so long ago as 1865, yet it has not been fully recognised until comparatively recently, and surgical treatment was not employed until 1891, when hepatopexy was first performed. The operation in one form or another is now a well-recognised procedure and the present aspect of the subject is well set forth in a clinical lecture by Mr. FREDERICK TREVES which appeared in the columns of THE LANCET.

The danger from an extensive rupture of the liver is exceedingly great, for its tissue is very vascular and the hæmorrhage is always severe. Slight lacerations which end in spontaneous recovery and cases in which an encysted effusion may form are not rare, but there have been very few cases in which a successful attempt has been made to treat surgically a laceration of the liver. Mr. THOMAS CARWARDINE has reported such a case and he has been able to find only three others in which the patient has recovered.

Fractures and Dislocations.

The best treatment of fractures of bones is still a *quæstio vexata*, especially with some surgeons. A large number of surgeons, perhaps the majority, are quite satisfied with what may be called the ordinary method of treatment of simple fractures. But there are others who claim that with the methods in ordinary use the affected limb is incapable of being used naturally in nearly every case for a long period, while in many others the disability is permanent. There is much to be said on both sides and the subject was discussed at the annual meeting of the British Medical Association. It appears to be certain that the fixation treatment of fractures is sometimes carried to excess and that an earlier recourse to movement and to massage would be followed by a diminution in the stiffness which is so liable to follow the prolonged incarceration of a limb between rigid splints. Mr. W. H. BENNETT contributed a valuable paper on the subject. There are, however, others who claim that in a large proportion of the cases of fracture of the long bones it is quite impossible by manipulation to replace the fragments in their original positions, and that this should be done by laying open the fracture by an incision, and after replacing the fragments wiring or screwing the broken bone so as to keep the fragments in position. The chief advocate of this practice is Mr. ARBUTHNOT LANE. It is true that it is frequently impossible by manipulation to replace exactly the displaced fragments of the bone, but it is also true that in most cases the amount of the deformity is very slight, so slight as generally not to interfere in any way with the efficient use of the limb. There are, however, certain cases in which it is quite impossible to put the fragments into a satisfactory position, and in such cases the surgeon is fully justified in wiring. At the present time if the surgeon has any doubt as to the position of the fragments after putting up the limb he should obtain skiagrams of the limb from two points of view and this may be done without disturbing the splints. Dislocation of the shoulder-joint from muscular action is a somewhat rare accident. A case recorded by Dr. J. GRIMMOND SMITH occurred in a man, 46 years of age, who was a congenital imbecile. The fracture of the os calcis by the sudden contraction of the calf muscles is also very unusual. Dr. R. THOMSON has described a case of this accident, and the fracture resulted from a sudden and forcible flexion of the left ankle, and a portion of the os calcis of the size of a walnut was pulled away by the tendo Achillis, and a space of about five inches separated the two fragments. Under an anæsthetic it was easy to bring the two fragments into apposition and they were wired, and the patient recovered.

Dr. J. D. RICE had a case of fracture of the femur in a new-born child which he treated by flexing the injured limb on the abdomen so that the foot was over the shoulder of the same side. The bone united well without shortening.

Two rare cases of separation of epiphysis were recorded; in one a skiagram showed that the epiphysis of a metacarpal bone had separated, and in the other the epiphyseal head of the femur had separated in a girl, 15 years old.

The Lengthening of Tendons.

The operation for lengthening a tendon is still by no means a common one, though it is now many years since it was first performed. Dr. R. A. HIBBS has described an ingenious method of obtaining more increase of length than was possible by the usual method, and he has employed it successfully in five cases of talipes equino-varus the result of infantile paralysis. A case of great interest was described by Mr. HERBERT W. PAGE who had under his care a little boy suffering from Volkmann's ischæmic paralysis, the result of the application of splints for a fracture of the lower end of the humerus, or separation of the lower epiphysis on the humerus. The range of movement was so slight that Mr. PAGE decided to lengthen all the flexor tendons. This was done and a very marked improvement in the power of movement resulted.

Tetanus.

Tetanus as a complication of a surgical operation is now very rare, at least in this country, and therefore a case recorded in which it followed nephropexy for floating kidney is of much interest. As great care seems to have been taken in guarding against sepsis it is just possible that it

was not due to the operation but was the result of an accidental inoculation.

Bullet Wounds.

It was only natural that the subject of bullet wounds should have received a large share of attention during the past year since a war has been in progress. The character of the wounds inflicted by the Mauser bullet excited no small measure of surprise amongst those surgeons who, like Sir WILLIAM MACCORMAC, remembered the effects of the needle-gun and the Chassepot. The Mauser bullet wounds were characterised by a rapid recovery in those cases in which no bone or important vessel had been struck. Often when a bone has been hit the bullet has drilled a clean hole through it without splintering. In other cases a bullet has traversed the abdomen and has apparently perforated the stomach or intestine, and yet no symptoms have appeared. It is true that in some cases the bone that has been struck by the bullet has been much comminuted, but even then complete consolidation may follow in spite of the compound nature of the fracture.

GYNÆCOLOGY AND OBSTETRICS.

During the past year there has been no diminution in the output of gynæcological and obstetrical literature. A great deal of good work has been done, and many accepted views have undergone criticism, rejection, or confirmation.

In a paper upon the Anatomy of the Uterus in Infancy and Childhood V. MANDACH reports that amongst 80 cases the Wolffian duct was present in 32 and remains of the duct in 14. The cervical mucous membrane is well developed at an early age, but in the body of the uterus very few glands are present before puberty. The limit between the squamous and the cylindrical epithelium is sometimes very definite, at other times the one gradually passes into the other. He found polypi at the internal os in no less than 35 cases.

Amongst gynæcologists fibroid tumours have as usual excited a great deal of discussion. Their natural history has been considered by Dr. F. H. CHAMPNEYS and Mr. ALBAN DORAN. The former, in a paper[1] read before the North London Medico-Chirurgical Society which was based upon the statistics of St. Bartholomew's Hospital, contends that the frequency of fibroid tumours is 0·01 per cent. in a population of 959,217 and that the mortality apart from operations is 0·000138 per cent. The views of Dr. CHAMPNEYS met with a good deal of criticism, and although, no doubt, the mortality from fibroid tumours is very low, yet his method of determining the percentage mortality by dividing the number of fatal cases seen in the post-mortem room into the number of female out-patients during a given period appears liable to fallacy. Mr. DORAN opened an interesting discussion upon fibroids at the meeting of the British Medical Association at Ipswich and showed how little we really know of the laws governing the development and growth of these tumours. Papers have appeared in THE LANCET by Dr. WILLIAM DUNCAN and Dr. W. J. GOW which illustrate how low the mortality from operations for fibroids may be at the present day. The former has operated upon 68 consecutive cases with four deaths and the latter upon 47 cases with only one death. With regard to the technique of such operations Professor HOWARD KELLY has published an important paper illustrating his method of dealing with very difficult cases, such as large adherent tumours or intra-ligamentary fibroids. He describes three ways of treating such cases: (1) median sagittal bisection of the tumour; (2) coronal bisection of the uterus; and (3) bisection of the tumour alone.

The treatment of cancer of the uterus was the subject of discussion in the Gynæcological Section at the International Medical Congress at Paris. Dr. RICHELOT in his report advocated vaginal hysterectomy very strongly. His mortality was only 6 per cent., and he could point to 18 patients who had benefited by the operation. He regarded the scope of abdominal hysterectomy as being very limited, and did not believe in the practice of "removing everything." The comparison with the removal of the breast and clearing out the axilla was entirely misleading. Professor DMITRI DE OTT also reported on the surgical side of the question. He thought surgical treatment the sole means of combating cancer of the uterus. It was possible to effect a complete cure by operation. He had observed a radical cure—viz., freedom from recurrence for six years—in 10 per cent. of his cases. Dr. CULLEN in his report described WERDER'S method of performing abdominal hysterectomy. In this operation the uterus is freed on all sides, the vagina is dissected free from the bladder and rectum, and the uterus is removed from the vagina after the pelvic and abdominal cavities have been closed. There is therefore no danger of the operator coming in contact with the carcinomatous cervix. Dr. A. H. N. LEWERS read a paper before the Royal Medical and Chirurgical Society upon the After-results in 40 Consecutive Vaginal Hysterectomies for Cancer of the Uterus. In 12 cases there had been no recurrence, in 18 there had been recurrence, while four patients had died. 11 patients had remained well for from two to seven years. The condition of patients who have an inoperable cancer of the uterus is so distressing that any method which holds out a prospect of improving the means of dealing with such cases is to be welcomed. GRUSDEW thinks that the use of carbide of calcium, first introduced by GUINARD in 1896, is a method of practical value. It depends for its action on the decomposition of the calcium carbide into acetylene gas and unslaked lime. It can be used in the out-patient department. The ulcerated surface is cleansed with wool and one or two pieces of calcium carbide are applied and kept *in situ* with a tampon. They are removed in a day or two with the dead tissue and are re-applied if necessary.

Last year CATHERINE VON TUSSENBROEK described a case of Internal Ovarian Pregnancy occurring in one of the Graafian follicles. From her observations she concluded that the occurrence of ovarian pregnancy could no longer be contested and that the case showed a normal development of syncytium which she regarded as a new proof that the syncytium is developed from the fœtal ectoblast. The validity of this case has been criticised a good deal during the past year and, as Mr. BLAND-SUTTON has pointed out, there is no evidence of the presence of chorionic villi in the description or drawings and he is therefore disinclined to accept it as a proved instance of ovarian pregnancy.

A very interesting case of prolonged gestation was reported in THE LANCET of Jan. 13th (p. 94) by Dr. JOHN PHILLIPS, in which delivery occurred 311 days after a single intercourse. This same question came up in a case before the courts and was noticed by us at the time. In this instance the jury evidently took the view that the pregnancy had not lasted 311 days as it was sought to prove, but no doubt they were influenced by other extraneous evidence upon this point. Dr. PHILLIPS'S case is of course also open to question, since it is always difficult to prove coitus on one single occasion.

Evidence is accumulating as to the safety and dangers of medullary narcosis. MARX reports six cases of labour treated in this way. Ten minims of cocaine containing one-sixth of a grain were injected into the spinal canal between the third and fourth lumbar vertebræ. In four of the cases the child was born without the patient knowing it. In one of the cases the cervix was dilated painlessly, while another case was a failure owing to the inertness of

[1] THE LANCET, Jan. 20th, 1900, p. 147.

the cocaine solution. All the patients complained of tingling in the legs and headache. The record is a very interesting one, but this method of treatment is hardly likely to come into general adoption.

An important paper was contributed by Professor WHITRIDGE WILLIAMS to the June number of the *American Journal of Obstetrics* upon Placental Infarcts. He agrees with EDEN and other observers that this condition is usually the result of endarteritis of the vessels of the chorionic villi. Moderate degrees of infarct formation have no pathological significance, but when the infarcts are numerous and large they are often associated with death and mal-development of the child. They occur frequently in association with albuminuria, but the relationship of the conditions is unknown.

In his address in Obstetrics at Ipswich Dr. W. J. SMYLY[2] gave a review of the question of maternal mortality in childbirth during the present century. From the statistics of the Rotunda Hospital he found that during the period (1870–1876) 8092 women were delivered in the hospital, of whom 169 died, or one in 45·5; during a second period (from 1890–1896) 9085 were delivered, with 50 deaths, or one in 181·7, a saving of about 200 maternal lives in 10,000 deliveries. It was certain that, in hospital practice at any rate, a marked improvement had taken place during the last quarter of the century amongst all the three classes of fatal cases met with in childbirth—viz., puerperal fever, accidents of labour, and other causes. In view of the fact that where there was no "handling" there was no septic infection he advocated very strongly indeed the avoidance as far as possible of vaginal examination and the practice of abdominal palpation. The important question of the notification of puerperal fever was discussed in the Obstetrical and Gynæcological Section at the same meeting. In spite of the difficulties that lay in the way of carrying out complete notification most of the speakers were in favour of its being done. Dr. BERRY HART, who opened the discussion, was strongly in favour of notification. He thought, however, that more than this was necessary, and that municipalities must provide skilled nursing where necessary, removal to a properly equipped hospital when desired, supervision of nurses and midwives when solely associated with the management of a case, and supervision of their proper disinfection before they took up fresh work. It was of great importance that the matter should not begin and end in mere registration. Dr. R. BOXALL drew attention to the fact that while during the 10 years 1881–1891 the death-rate from puerperal fever in London was 21·5 and in the provinces 25·6 per 10,000 confinements, during the last seven years, 1892–1898, it was 19·2 and 24·1 respectively—figures which showed that there had been practically very little change in the rate of mortality from this disease. After considerable discussion, in which it was stated by several speakers that compulsory notification would be very prejudicial to medical men, the following motion was adopted:—

That in the opinion of this meeting it was desirable that notification of puerperal fever (septicæmia) should be adopted generally.

The second obstetrical subject for consideration before the meeting was the treatment of post-partum hæmorrhages. The discussion was opened by Professor BYERS, who declared himself in favour of gauze-plugging of the uterus rather than bimanual compression of the uterus in severe cases where the hot douche and other means had failed to excite uterine contractions.

Two important papers were read before the Obstetrical Society of London upon Incarceration of the Retroverted Gravid Uterus by Dr. J. SINCLAIR and Dr. MUNRO KERR. The latter reported amongst others the case of incarceration of the retroverted gravid uterus with hæmorrhage into the bladder after catheterisation operated upon by Mr. MURDOCH CAMERON. He performed abdominal section, opened and emptied the bladder, and replaced the uterus. Dr. SINCLAIR in his paper protested against the performance of unnecessary operations in these cases. He recommended the introduction of a hard ring pessary, a method which usually resulted in speedy replacement of the uterus. In cases where sloughing of the bladder wall was imminent he would open the bladder by vaginal cystotomy, and he thought the same plan of treatment would answer quite well if hæmorrhage occurred into the bladder. In the discussion upon these papers most of the speakers said that reposition with or without an anæsthetic was all that was required in the great majority of instances.

An interesting paper was read before the same Society by Dr. THOMAS WILSON on Organic Affections of the Heart occurring in connexion with Fibro-myomata of the Uterus. The important question of the best mode of treating cases of rupture of the uterus was considered by Dr. HERBERT SPENCER. He concluded that abdominal section was rarely required and almost solely in cases where the fœtus had passed completely or in part into the peritoneal cavity. It was best done under local anæsthesia. Abdominal hysterectomy was hardly ever necessary, vaginal hysterectomy where the broad ligaments were very much damaged being a preferable operation. All incomplete tears implicating the broad ligament and most complete tears should be treated by packing the rupture per vaginam with iodoform gauze after removing clots and fluid blood. Dr. AMAND ROUTH made a very valuable contribution upon Porro-Cæsarean Hysterectomy. He considered it to be a point worthy of discussion whether supra-vaginal amputation of the uterus (Porro's operation), with retro-peritoneal treatment of the stump, was not safer for the patient in skilled hands than a Sänger Cæsarean section with sterilisation, in all cases of permanent obstruction to labour requiring abdominal section, except, perhaps, those due to cancer of the supra-vaginal portion of the cervix.

In the section of obstetrics at the International Medical Congress at Paris a discussion was held on the Etiology and Nature of Puerperal Fever. Reports were presented by MM. DOLÉRIS, MENGE, and KRÖNIG and PESTALOZZA. The bacteriological aspect of the question was the one that was mainly considered and in view of the special knowledge of the authors their conclusions are of great value. The interesting question of the possibility of the occurrence of autogenetic injection was fully considered. M. DOLÉRIS said that from the clinical point of view they were bound to admit the reviviscence *in situ* of pathogenic germs pre-existing in the cervix uteri and Fallopian tubes, and the possibility of such an infection becoming generalised after confinement without any fresh importation of pathogenic microbes from without. By autogenetic puerperal injection Dr. MENGE and Dr. KRÖNIG understood an infection produced by pathogenic bacteria that have lived in the condition of saprophytes before labour on the integuments of the external genitalia or in the genital canal of the woman, and which, during her confinement or immediately after it, had invaded the organism through the puerperal wound and set up disease. Taking clinical facts as a guide, the authors regarded as rare and favourable the autogenetic puerperal infection produced by such saprophytic organisms. An autogenetic infection produced by bacteria that had lived as saprophytes in the cervical canal or in the cavity of the uterus, or in the tubes, could be absolutely rejected, for these organs never contained bacteria in the condition of saprophytes. The primary infective focus was most commonly situated in the endometrium, more rarely in the cervix, and most rarely in the vagina or perineum. Dr. PESTALOZZA reported the results of his studies as to the

[2] THE LANCET, August 11th, p. 385.

channels by which the different pathogenic agents could penetrate into the tissues of a genital canal of a lying-in woman. The results of his researches had led him to the following conclusions. The aseptic course of events following delivery depended upon the rigorous disinfection of the external genitalia and of the hands and instruments of the obstetrician. Disinfection of the vagina and the use of douches before and after labour were useless and dangerous. If infectious symptoms arose it was of the greatest importance to determine the point of entry of the injection. He had only found the staphylococcus in the case of multiple abscesses in the wall of the uterus, and the bacillus coli communis in the case of fever arising from decomposition of the liquor amnii. The other obstetrical subject discussed was asphyxia neonatorum. Reports were presented by Dr. RIBEMONT-DESSAIGNES, Dr. CHAMPNEYS, and Professor SCHULTZE.

The disinfection of the hands in view of the large number of cases of puerperal infection in which the contagion is caused by them is a matter of much importance. The best means of accomplishing this has been considered by a large number of observers during the past 12 months. It seems certain that absolute sterilisation of the hands is not possible. VARNIER says: "Brushing of the hands in hot soap-and-water for five minutes does not secure asepsis, consecutive immersions in alcohol and in a 1 in 1000 solution of perchloride of mercury or a 1 in 2000 solution of biniodide of mercury does not sterilise the hands, but practice has shown that although a few microbes can still be found after such treatment, yet the sterilisation is sufficient from the point of view of prophylaxis. The germs may not be destroyed but their activity is impaired." The use of thin rubber gloves which can be sterilised is a precaution of great value to the surgeon or gynæcologist who is compelled to handle infected material.

Publications.

Amongst the more important books that have been published are Varnier's "Obstétrique Journalière," the completion of the German Encyclopædia of Midwifery and Gynæcology, edited by SÄNGER and VON HERFF, and a very interesting book on Cancer of the Uterus by Dr. CULLEN of Baltimore.

OPHTHALMOLOGY.

Lacrymal Obstruction.

Amongst the more interesting events that have taken place during the past year in Ophthalmology are the discussion on the treatment of lacrymal obstruction at the Ipswich meeting of the British Medical Association, which was opened by Mr. GEORGE BERRY, from whose conclusion that as a rule there is a tendency to do too much few of those who have seen many cases will be inclined to dissent. In the course of the discussion which followed the reading of the paper it appeared that there was not any very general consensus of opinion in regard to the treatment to be adopted even in the more simple forms of disease, and much less consequently in the more severe forms—some using small and others large probes; some slitting up the canaliculus and inserting straight silver or gold styles; others moulding flexible lead ones to the form of the duct and copying the form in gold. One speaker used a rose-headed drill or burr worked by the ordinary dental engine; another was content with syringing at first and slitting up the canaliculus if this plan were ineffective or even laying open the sac and either removing it or applying the actual cautery. It is curious that no one suggested that the teeth were sometimes at fault and that the extraction of the second bicuspid or first molar tooth is sometimes sufficient to effect a permanent cure. Mr. DONALD GUNN noted the frequency of lacrymal obstructions in infants and believes it to be associated with congenital obstruction at the lower end of the nasal duct.

At the same meeting Dr. W. A. BRAILEY in his introductory address dwelt on the various forms of ocular disturbances that may occasion headache and indicated the means of relief. He considered that muscular efforts either of the intrinsic or extrinsic muscles are by far the most common, especially those concerned in the effort to correct hypermetropia and astigmatism; and Mr. RICHARDSON CROSS of Clifton took for the text of his discourse the treatment of chronic glaucoma. He advocated the early performance of sclerotomy and adduced cases in which the field of vision had improved when the tension was relieved. Other speakers preferred the postponement of the operation to a late date, combating the symptoms with myotics.

An interesting case throwing some light on the trophic influence of the fifth pair of nerves on the cornea has been recorded by Dr. VEASEY of Philadelphia in which, after removal of the lacrymal gland for obstruction of the lacrymal duct, anæsthesia and subsequently inflammation of the cornea occurred notwithstanding that the eye was carefully protected. It would seem, therefore, that this case supports the views of those who maintain that the cause of such an affection is not of a mechanical nature and due to exposure of an insensitive cornea, but that it is the result of some disturbance of the trophic nerves. The case under judicious treatment made a complete recovery.

The Value of Enucleation.

The relative value of enucleation as compared with the various proceedings by which that operation can be replaced was well discussed at the International Medical Congress which met at Paris and also by Dr. DEMARIA of Buenos Ayres. As Professor PFLÜGER of Berne remarked, enucleation has the advantage of being a simple operation capable of rapid execution, but it has the disadvantage of leaving a small stump which allows of but little movement in an artificial eye adapted to it. Various methods have been adopted to remedy this evil. Dr. MULES eviscerates the contents of the globe and inserts an aseptic glass or metallic ball, uniting the edges of the sclerotic and rendering the wound subcutaneous by drawing the conjunctiva over it; Mr. W. A. FROST and Mr. W. LANG propose to inclose the glass bulb in the capsule of Tenon; whilst Dr. SCHMIDT recommends attaching the recti muscles to the conjunctiva. Lethal meningitis has been observed in cases of enucleation of the eye affected with acute inflammation and suppuration, but it has also been observed in similar cases when no operation was performed. None of these proceedings is a complete safeguard against the occurrence of sympathetic ophthalmia, nor does neurectomy constitute a complete and permanent protection against it. Dr. DE SCHWEINITZ considers that enucleation is indicated in cases of recent and severe injury, whilst MULES'S operation should be performed in cases of staphyloma corneæ, of absolute glaucoma, and of non-traumatic iridocyclitis. Dr. H. R. SWANZY of Dublin practises MULES'S operation in all cases of enucleation, excepting those of malignant tumour or cases where sympathetic tumour is to be dreaded. M. DE LA PERSONNE prefers the actual cautery, as recommended by M. PANAS, in which a large thermo-cautery at a white heat is applied to the interior of the globe. The débris of the membranes are removed and the wound is cleansed with cyanide or chloride of mercury. No bleeding occurs; no sutures are needed and pain is abolished.

Retraction Movements of the Eyeball.

Dr. JULIUS WOLFF of New York has described cases of retraction movements of the eyeball, a condition which has attracted but little attention. It appears to be associated with a congenital defect in the motility of the retracted eye and the retraction invariably takes place during attempted

inward rotation, a forward movement of the globe occurring together with widening of the palpebral fissure on efforts to evert being made. He agrees with TUERK in attributing it to paralysis of the external rectus, which is converted into an unyielding strand of connective tissue.

Electric Light and Blindness.

That the employment of electricity is not quite free from danger to the eye is shown by a case under the care of Dr. UHTHOFF in which the rays proceeding from an arc light fell suddenly upon the left eye, the other being closed, with the result that a central scotoma was observed in the eye extending about 10° from the point of fixation. On ophthalmoscopic examination a number of yellowish-red points were found scattered about the macular region. Dr. DUNBAR ROY of Atalanta reports three cases where temporary blindness followed exposure to the flash of light due to the accidental crossing of two electric wires carrying a voltage of 500.

Colour-blindness.

Dr. W. THOMSON of Philadelphia has devised an instrument for diagnosing colour-blindness. It is composed of coloured glasses set in the periphery of a disc capable of revolving in front of a light. The glasses of this disc can be covered by a set of glasses set in a second disc of which one is white ground glass, one deep London smoke, one pink, one green, and one cobalt glass, and in addition one disc is perforated by holes of different size to moderate or to intensify the light. This instrument with Dr. THOMSON'S colour-stick constitutes the means of examination for the colour sense practised on the Pennsylvania Railway and on 150,000 miles of railroad in America. Dr. CHARLES WILLIAMS of Boston has also brought before the American Ophthalmological Society a lantern for testing colour perception. Dr. WARD HOLDEN and Mr. K. BOESE of New York have made a series of experiments on children in regard to colour vision and find that under two years of age infants are chiefly attracted by reds. Then follow some years of comparative indifference to colour, but at the age of five or six blue is almost universally preferred.

The Mechanism of Accommodation.

The explanation of the act of accommodation advanced by VON HELMHOLTZ and given upon his authority in most text-books was some years ago impugned by Dr. TSCHERNING, a Russian ophthalmologist of great ability. Briefly stated, the view of VON HELMHOLTZ is that in repose the lens is flattened by traction exerted by the zonule, whilst in accommodating for near objects the ciliary muscle contracts, and as its anterior margin is considered to be fixed it draws the choroid forwards, relaxes the zonule, and the lens becomes more convex anteriorly owing to its elasticity. Dr. TSCHERNING contended that the contraction of the ciliary muscle in accommodation rendered the zonule tense instead of relaxing it, and the pressure on traction exerted on the lens produced a kind of lenticonus or increased curvature anteriorly. Dr. W. N. SUTER of Washington, as the result of a series of experiments, pronounces in favour of VON HELMHOLTZ'S theory, maintaining that the increased prominence of the anterior surface of the lens in accommodation does, indeed, occur, but only in old animals—that is to say, precisely at a time when the accommodation faculty is failing or is lost and is then due to the bulging of the hard nucleus when the lens is flattened as a consequence of the relaxation of the zonule when the ciliary muscle contracts.

The Visual Area.

Dr. JOSEPH SHAW BOLTON has made an important contribution to Ophthalmology by his research on the exact histological localisation of the visual area of the human cerebral cortex, derived from a study of lesions causing blindness, and of the histological examination of the occipital cortex. The area chiefly occupies the body of the calcarine fissure, but extends to some adjoining parts. The portion of this area to which afferent visual impressions primarily pass is the region of the cortically situated line of Gennari, and it constitutes the cortical projection of the corresponding halves of both retinæ. The part above the calcarine fissure represents the upper corresponding quadrants and the part below the lower corresponding quadrants of both retinæ. It is sometimes of importance to see with the ophthalmoscope as far forwards as the tips of the ciliary processes. Dr. TRANTAS of Constantinople has suggested a means by which this may in most instances be accomplished—namely, by pressing with the finger on that region whilst the patient is under examination. As a rule, even when examined most obliquely the parts in front of a circle drawn at a distance of one-third of an inch from the sclero-junction are invisible. By pressure one-eighth, or even one-sixth, of an inch more may be brought into view. The anatomical seat of the lesions which are supposed with some show of reason to result from the toxic influence of alcohol and to lead to impairment of vision has been investigated by Dr. BASIL SIEGFRIST. It may be, seeing that complete recovery is often the result of appropriate treatment, that, as Mr. PRIESTLEY SMITH suggests, in many instances there are no lesions, but a certain pallor of the discs is of common occurrence, and if indulgence in alcohol is carried to excess atrophy of the optic nerve may ensue. By some this is attributed to interstitial inflammation of the connective tissue forming the trabeculæ, the proliferation and contraction of this material destroying the nervous tissue. Others hold that the nerve tissue is primarily attacked and its functions are impaired, the increase of the connective tissue being secondary. Dr. SIEGFRIST supports the former view.

The Treatment of Entropion.

The treatment of entropion was the subject of two papers and a discussion in the American Ophthalmological Society. The extreme irritation and discomfort of this condition as well as the danger of rendering the cornea opaque and causing loss of vision and the difficulty of effecting a cure have led to the adoption of many operative procedures, some of them of great antiquity. Where many operations have been proposed for a particular disease it may be taken for granted that no single one is always appropriate and successful. Some slight cases may be cured by the simple expedient of applying elastic collodion to the outside of the lid, others by the removal of a narrow horizontal strip of skin, others by horizontal incision of the conjunctiva and the insertion of a strip of skin taken from some other part of the body, as of the skin from behind the ear, others have applied electrolysis to the skin, and others have made an eschar with caustic potash. Dr. EWING of St. Louis makes a conjunctival flap, then a horizontal incision through the tarsus but not through the muscle, and everts the free edge over a small roll of lint by two or three sutures. The posterior flap of the divided conjunctiva is finally stitched into the angle of the wound. Dr. WEEKS of New York makes a cut along the whole length of the lid between the cilia and the Meibomian follicles and another one three millimetres below through the skin, he then removes a wedge-shaped strip of the tarsus and inserts a piece of mucous membrane into the wound.

Treatment of Magnetic Foreign Bodies.

Dr. COPPEZ of Brussels and ISODORE GUNZBURG have written an interesting article on the diagnosis and treatment of iron fragments that have penetrated the globe of the eye. Their observations, which are numerous, show that the chances of recovery with useful vision, though always doubtful, are far greater when the position of the fragment is in the anterior than in the posterior region of the globe. The means of diagnosis they employed was the

magnetorium of GÉRARD, which they found to be simple, effective, and capable of easy manipulation. Dr. LIPPINCOTT of Pittsburg, Pa., employs for the purpose of diagnosing the presence of particles of iron in the eye a magnet weighing nine pounds and capable of lifting a weight of 50 pounds. Its application is facilitated by supporting it with a cord passing over a pulley and terminating in an equipoise.

Literature.

Dr. W. NICOLAEW and Professor J. DOGIEL describe in Pflüger's *Archiv* the mode in which they have obtained photographs of the inverted image of the fundus of the eye and give two photographs. The *Optician* issued weekly and intended primarily for the trade is a very well-conducted journal and contains much useful information on optical subjects. It has published during the past year PEREIRA on Refraction and Dr. BREWSTER'S Optics considerably enlarged and brought up to date. The fourth volume of Dr. W. F. NORRIS and Dr. C. A. OLIVER'S valuable System of Diseases of the Eye by various authors has been published, containing an account of the motor apparatus of the eye, of the cornea and lens, and of the refraction of the eye. There is also a chapter on Medical Ophthalmology. Dr. CHARLES MAY of Columbia University, New York, has published a good manual of the Diseases of the Eye. The Refraction of the Eye, including a complete treatise on Ophthalmometry, has been written by Dr. A. EDWARD DAVIS and constitutes a very sound guide to the student and practitioner. Professor O. HAAB has published a third and enlarged edition of his useful Ophthalmoscopy which represents in chromo-lithography many of the diseases of the fundus.

Miscellaneous.

The careful observations of Dr. A. PICHLER during the year have demonstrated what previously was only believed to occur, that a partial decussation of the optic-nerve fibres takes place in the chiasma. The non-decussating portion occupies chiefly the lateral and dorso-lateral portions of the chiasma. In the optic tract they are situated in the dorsal two-thirds. The decussating fibres are situated mesially, and some of the fibres form short loops passing from one optic nerve to the other.

Cases continued during the year to be reported of high, or of rapidly increasing, myopia in which the lens has been removed with satisfactory results, Dr. KOLLOCK of Charleston, S.C., for example, giving a case where after removal of the lens the vision with a low convex glass and astigmatic correction was such that the smallest print was easily read by the patient.

As iodoform is often freely dusted over the wound left after enucleation it is perhaps expedient to notice that various cases have been recorded in recent ophthalmological journals of impairment of vision due to the poisonous effects of iodoform. The symptoms observed have been attributed to the development of a toxin by micro-organisms in the eschar produced by the drug.

FORENSIC MEDICINE.

During the present year a large number of actions have been tried in the civil courts in which medical men have appeared as plaintiff or defendant and very generally with the result that the morale of the profession has been maintained and even enhanced.

Mr. J. L. A. HOPE sued the Chertsey Board of Guardians in the County Court for £7 7*s*., his fees for examining seven persons for the purpose of certifying under the fifth subsection of the 24th section of the Lunacy Act of 1890. The Guardians, it will be remembered, proposed to pay only half a guinea for each case as, in their opinion, reasonable remuneration for the service rendered. The Act does not fix a definite sum, but it was shown that one guinea was the amount usually awarded and judgment was very properly, we think, given for the plaintiff.

The resident medical officer of the Leeds Public Dispensary and his locum-tenent were summoned at the instance of the Registrar-General for having contravened the provisions of the Births and Deaths Registration Act of 1874. The former gentleman attended a child at the dispensary. He was afterwards absent from the institution for a time, leaving some open death certificates signed by him. 15 days after the child was taken to the dispensary the locum-tenent, who had no personal knowledge of the case, filled in the particulars as to the cause of death on one of the forms referred to. It was not contended by the prosecution that there had been any attempt wilfully to issue a false certificate; nevertheless there had been great irregularity. The magistrate imposed a nominal fine in each case, "the amount of the penalties being paid as the costs of the prosecution." We took occasion to endorse the action of the Registrar-General, maintaining, as we have always done, that certification of death should be in strict accordance with the terms of the Act.

In the Queen's Bench before the Lord Chief Justice Messrs. ANDERSON and FENNER sued a Mr. MOELLER for the payment of fees for professional services. It was pleaded in defence that the charges were exorbitant, and that there had been want of proper care and attention. Evidence was called to refute the latter plea, and successfully, for after a most able and lucid summing-up by the Lord Chief Justice, the jury found for the plaintiffs, though for a smaller sum than was claimed.

A very interesting case was concluded at an adjourned inquest at Hastings on Nov. 17th. An elderly lady received an injury to the hip. After leaving the local hospital she came under the care of Mr. H. R. MANSELL. This gentleman wishing to clear up a doubtful diagnosis employed a chemist to take a radiograph. One result of the procedure was that a skin eruption with subsequent extensive ulceration developed at the site of application of the instrument. The distance of the focus-tube from the skin was not mentioned. Evidence was given that the apparatus was somewhat antiquated. The exposure seemed to have been unusually prolonged. The jury found that no blame attached to the medical man or to Mr. BLOOMFIELD who took the skiagram. In commenting on the case we expressed the opinion that considering the possible mishaps the Roentgen rays should be applied by the medical man himself or by some other skilled qualified operator.

SHAW *v.* the Railways Passengers Assurance Company, which was adjudicated upon by a court of arbitration, raised two very important pathological and incidentally clinical questions. The deceased man was thrown from a cart and received severe internal injuries. After temporary improvement he got worse, and died 10 weeks after the accident. At the necropsy a soft mass was found filling the pelvis, which the medical men who attended the deceased concluded was a degenerated blood-clot. A microscopical examination was made by the Clinical Research Society and the result reported as showing a soft sarcoma. From their finding we gathered that the arbitrators were of opinion that the examination of a single microscopical section of the mass was not sufficient to distinguish between a round-celled sarcoma and granulation tissue, or that, granted the existence of the former it was not proved beyond reasonable doubt that the injury might not have been the exciting cause of the growth. These assumptions received our endorsement.

As in our last annual record, so now, we express our unfeigned satisfaction at the marked diminution in the practice of criminal abortion by medical men. It would seem that the merited condign punishment meted out to unworthy members of the profession has had a deterrent effect upon would-be contraveners of the law—if such there are. There seems,

however, too much ground to fear that the crime in question has by no means fallen into desuetude as regards abortion-mongers. At the Central Criminal Court on Nov. 20th ERNESTINE KATZ, a German, was sentenced to 10 years' penal servitute. From documents found on her it appeared that she had been charged in 1897 at Berlin with the same offence and had absconded from her bail.

The crusade against the publication and sale of obscene literature has met with considerable success. We trust that the authorities will continue their attempts to suppress this fertile source of moral pollution. "Professor WELLS," a sexual quack, got no more than his deserts when he was sentenced to 12 months' imprisonment for using in a public place obscene and filthy language, and for having published an obscene book.

Overlying still contributes largely to the record of infant mortality. Much of the sacrifice of life in this way might be easily prevented, as we have pointed out, by putting young children in separate beds instead of allowing them to sleep with their parents. It seems reasonable to infer that criminality as well as carelessness accounts for many of the deaths from overlying which are attributed to accident, although the difficulties in the way of determining the facts are in most instances insurmountable. A woman was committed for trial at the North London Police-court for having negligently attended her child whilst in bed with it. She had previously lost two of her children from "overlying."

A remarkable instance of ice-cream poisoning occurred in Rochdale. A large number of people were attacked with gastro-intestinal symptoms, and one person died. The constituents of the "cream" would seem to have become infected from having been placed in contiguity with excreta from the human alimentary canal. The case points to the necessity not only of providing cream free from organisms and the products of their fermentative action, but of preserving the same from after-contamination.

Very few cases of homicidal poisoning have to be chronicled. Accidental and suicidal poisonings, on the other hand, have claimed their wonted share of victims.

Our knowledge of the action of poisons has been amplified in some cases and emphasised in others. The recently discovered existence of arsenical beer poisoning on a wide scale has revealed the original source of the evil. At the same time it has raised the whole question of artificially prepared foods and drinks. Moreover, we have been led to compare the effects of certain consequences of arsenical poisoning with those of chronic alcoholism and the disease beri-beri. Both arsenic and alcohol cause peripheral neuritis. The pigmentation from arsenic unfortunately occurs too late to raise a timely warning.

The provisions under the Sale of Food and Drugs Act are not sufficient to safeguard the community. Further legislation to compel specification is needed. In THE LANCET of Jan. 20th, p. 177, we wrote: "The preparation of maize glucose is, however, conducted with great care and there is no reason for doubting the wholesomeness of the product." Arsenic has not yet been found in artificial golden syrup, we believe.

Dr. LOUIS P. HAMBURGER has published in the *Johns Hopkins Hospital Bulletin* an instructive case of chronic arsenical poisoning, in which the prominent features were pigmentation, keratosis, and ascites. It seems to be not improbable that arsenic may have a direct effect upon the serous membranes as well as upon the nervous, mucous, and cutaneous membranes. M. ANDRÉ PETIT and M. HUDELO, in papers read before the Société Médicale des Hôpitaux, have discoursed on the relation of plumbism to parotitis. They found lead in the saliva. It seems likely that parotitis may be caused (1) by the irritant action of the lead during salivary excretion and (2) by spreading of the inflammation from the buccal mucous membrane. Industrial lead poisoning has received attention and the recommendation of the chief inspector of factories that each successive attack of lead poisoning in the same individual should be notified is likely to prove a signal service.

In the *American Journal of the Medical Sciences* Dr. F. B. HARRINGTON has related a series of 132 cases of gangrene from the continued application of dilute solutions of carbolic acid. In some instances a 2 per cent. or 3 per cent. solution applied for 24 hours or less sufficed. In MERCK'S Archives attention was drawn to the antidotal action of alcohol as regards carbolic acid. It can be given in the form of brandy or whisky. It is recommended that a weak solution of sulphate of soda be used to wash out the stomach and that the same salt should be administered subsequently. A new process has been devised for estimating quantitatively mercury in the urine. The urine to which stannous chloride has been added is poured on an asbestos filter containing particles of gold derived from auric chloride. The difference between the weight of the dried filter before and after the expulsion of the mercury by volatilisation gives the amount of mercury. We consider the old plan of electrolysis to be preferable.

Dr. COLEMAN of New York has described a case of poisoning by trional. The patient, a woman aged 35 years, suffering from mild alcoholic delirium, took 540 grains of the drug. The chief symptoms were thickness of speech and ataxy. Dr. TAYLOR and Dr. SAILER, in their contribution from the WILLIAM PEPPER Clinical Laboratory, University of Pennsylvania, gave the history of a case of fatal poisoning by sulphonal. The victim was a woman, aged 52 years. There was difficulty of speech, sighing dyspnœa, hæmatoporphyrinuria, and stiffness and paralysis of both legs. Death resulted from cardiac failure. Post mortem the internal organs showed fatty degeneration. There was pigmentation of the spleen and lymphatic glands.

In the *Edinburgh Medical Journal* Dr. JAMES FOULIS has described two simultaneous cases of poisoning by cannabis indica. The patients, two students, took in successive doses 25, 40, and 90 minims of the tincture with a view of "experiencing the wonderful dreams" produced by the drug. The symptoms were marked mental and muscular stimulation. In JACOB'S Festschrift, 1900, Dr. B. SCHARLAN has illustrated the value of curare in the treatment of tetanus by three successful cases.

Coal-gas accounted for the death of a man at Birmingham. The gas escaped through the failure of the water seal—a most dangerous arrangement—in a chandelier fitted with a water-slide pendant. A man and his son were killed by the inhalation of gas which had escaped from "a shilling in the slot meter." The gas company's employé had omitted to test the meter, a circumstance upon which we animadverted.

DENTAL SURGERY.

The past year has given clear evidence that the medical profession is becoming fully alive to the important rôle which an aseptic mouth plays in the maintenance of good general health. In an excellent series of communications to THE LANCET in the early part of the year Dr. WILLIAM HUNTER showed that pernicious anæmia is probably a chronic infective disease with marked gastro-intestinal symptoms. The infection he considered in the majority of the cases to be directly traceable to the mouth. Mr. RICKMAN GODLEE, in a paper read before the Royal Medical and Chirurgical Society, drew attention to serious conditions which were apparently traceable to infection from a suppurative periodontitis. Not only has the question of septic infection from the teeth received attention from the medical profession but the subject of early decay of the teeth has been brought prominently forward by the first report of the committee appointed by the British Medical Association. The report, although it adds nothing new to our knowledge of

caries, is nevertheless an able *résumé* of the question and forms a good basis for further researches.

Papers on Superior Protrusion (prominent upper teeth) have appeared from the pens of Mr. T. E. CONSTANT, Mr. E. LLOYD-WILLIAMS, and Mr. J. F. COLYER. Mr. CONSTANT dealt briefly with the question of etiology, Mr. LLOYD-WILLIAMS and Mr. J. F. COLYER with treatment. In the paper by the latter early interference — namely, before the eruption of the canines—was recommended, and it was shown by models of cases before and after treatment that by this means better results can be obtained than when treatment is delayed until the appearance of the second permanent molars. A paper on the Treatment of Misplaced Teeth by Alveolotomy has been contributed by Mr. W. H. DOLAMORE. This method consists in the immediate regulation of teeth by making incisions through the whole alveolus on either side of the misplaced tooth and bringing the tooth, with its encircling structures, either forwards or backwards as required. The method seems destined to prove useful for the correction of misplaced teeth in adults.

An excellent article has appeared on Antral Abscess by Mr. J. G. TURNER. The writer points out the unsatisfactory results which follow opening of the antrum through sockets of teeth and strongly recommends the operation through the canine fossa, as by this means all parts of the antrum can be reached and the mucous surface curetted. Attention is also drawn to the frequent prolongation of the antrum into the nasal process. This portion of the antrum is inaccessible and is often overlooked by the operator, thus continuing a focus of infection. Investigators have been busy investigating the micro-organisms connected with caries and useful communications have been published by M. CHOQUET and Mr. A. L. GOADBY. The mummification of pulps has again attracted attention and it seems quite possible that some of the methods which are being tried may prove of great utility for the treatment of the pulp in difficult cavities.

A case of multiple necrosis, supposed to be traceable to septic infection from a tooth, was recorded by Mr. BREWARD NEAL. The cause was an obscure one and would have been more interesting if in recording the case it had been stated what care had been taken to exclude other causes. A large number of records of cases in which a relationship is supposed to exist between dental and general conditions are too often rendered valueless by want of care in excluding the possible or probable causes.

Mr. M. HOPSON has reported an instance of hypertrophy of the gums existing in three members of a family—the father and two children—one interesting feature being that in the father a sarcoma springing from the upper part of the maxilla appeared.

In the practice of dental surgery progress has been made in the treatment of cavities by means of porcelain inlays. It is to be hoped that this work, which in its place is excellent, will not become a lever for quackery.

The x rays have been more employed as an aid to diagnosis during the past year, and the paper read by Mr. GOLDIE before the Odontological Society of Great Britain showed their great value. In probably no other branch of surgery are the rays more useful, and it is to be hoped that the dental hospitals, like the general hospitals, will institute proper departments. Dental surgeons and those in authority as teachers do not seem to have yet grasped the value of this means of diagnosis.

The annual meeting of the British Dental Association was held at Leeds under the presidency of Mr. G. BRUNTON. An important discussion took place on the Teaching of Mechanical Dentistry, and another feature of the meeting was the number of papers and demonstrations on the subject of crowns.

The past year has seen another International Dental Congress, Paris being the rendezvous. The gathering was a distinct success and many of the papers which were read were of more than usual merit.

The importance of providing dental surgeons to the services formed the subject of a communication by Mr. N. G. BENNETT, and there is reason to believe that the question is receiving official attention. If such officers are appointed it is most important that they should hold not only dental but also medical qualifications.

Publications.

There have been but few new books published; Mr. J. J. FITZGERALD'S little work on "Pyorrhœa Alveolaris" has reached a second edition. Dr. SIM WALLACE has published a book on "The Etiology of Caries," Dr. C. N. JOHNSON one on "The Principle and Practice of Filling Teeth," and Mr. J. F. COLYER one entitled, "Notes on the Treatment of Irregularities in Position of the Teeth."

Obituary.

The obituary of the year includes Mr. JAMES WALLACE of Paisley, Mr. J. H. REDMAN of Brighton, Mr. C. MORLEY of Derby, and Mr. J. B. FLETCHER of London. The dental profession has also to regret the loss of Mr. STORER BENNETT and Mr. T. UNDERWOOD.

ANATOMY AND PHYSIOLOGY.

Although no very remarkable advance can be chronicled in regard to the progress of physiology during the past year, yet, like the ripples of the rising tide, a constant accession of facts may be observed which serve to eliminate former errors, to strengthen and establish the truths which may even yet be in need of support, and to open up new paths of research. It is pursued with singular perseverance and ability in Germany, and so numerous are the articles that have been published in that country that it has become impossible even for those who have devoted themselves to its study to read more than a small proportion of them. Pflüger's *Archiv für Physiologie*, which is only one amongst several journals devoted to physiology, forms four large volumes of 640 pages each and contains upwards of 100 articles, many of them running to a length of 30 or 40 pages, for the present year alone. In taking a general survey of this field of science it may be noted that a considerable number of the papers read before societies and contained in journals are devoted to the chemical side of physiology. Taking at random, for example, one or two of the parts of the journal we have just mentioned (Pflüger's *Archiv*) we find articles on the quantitative determination of glycogen, on the proportion of urea in human milk, the position of the purin or xanthin bodies in general metabolism, on the presence of proteolytic and amylolytic ferments in the colon, and on the absorption of fat without previous saponification. So, too, in Reichert's *Archiv* we find essays on ferments, on the absorption of food, on the preliminary stages of glycogen in the body, and on the colouring matters of the blood; and in the *Journal of Physiology* we have contributions to the physiological effects of peptone when injected into the circulation, the pressure filtration of proteids, the metabolism of phosphorus, and on the separation of a pure albumin from white of egg. If progress be made on these lines it is clear that our knowledge of the processes by which the dead protoplasm of plants and animals becomes converted into the protoplasm of the living being will be presently fully and correctly ascertained.

The students attending the courses of instruction on the different branches of medical science at the University of Cambridge are becoming year by year more numerous and an increase in the accommodation is absolutely necessary. New buildings are about to be constructed, the total cost of which

is estimated at £40,000. New laboratories have been completed at King's College, London, at great expense and were formally opened by Lord LISTER. An extremely liberal offer was made to the University of St. Andrews by the late Lord BUTE who proposed to found a chair of anatomy in that university and to endow it with the sum of £20,000. The offer, it need hardly be said, was accepted and hearty thanks were tendered to the Marquis of BUTE for his liberality.

The Harveian Oration was delivered before the Royal College of Physicians of London by Dr. CLIFFORD ALLBUTT who took for the subject of his discourse Physiological Darkness before the time of HARVEY and gave a masterly sketch of the course of mingled truth and error in long bygone times.

If the estimate of the quantity of blood in the body given by Dr. JOHN HALDANE and Dr. LORRAIN SMITH is to be trusted, the statement that is to be found in most modern text-books that it equals one-twelfth or one-thirteenth of the weight of the body must be regarded as too high. These observers drew their conclusions from the rate at which the hæmoglobin of the blood becomes saturated with carbonic oxide when a given small percentage of this gas is continuously breathed, and their estimate is that the quantity is only about $\frac{1}{20{\cdot}5}$ of the body-weight, or about seven or eight pounds for a man weighing 150 lb., with extremes of one-thirtieth and one-sixteenth. This estimate, whilst it is in accordance with the very marked effects produced in these days by the abstraction of a few ounces of blood, is difficult to reconcile with the estimates of HALLER and WRISBERG, both careful observers, who formed their opinion from the quantity of blood collected from the body in the case of decapitated criminals, and placed it, the former at about from 28 to 30 pounds, and the latter at 24 pounds. Can our better and more varied dietary have led to the production of blood smaller in quantity but of better quality and more adapted to the needs of the economy than the more abundant but less diversified diet of our forefathers?

An interesting lecture on Some of the Mechanisms of the Heart and its Valves was delivered at the meeting of the Chelsea Clinical Society by Dr. WILLIAM EWART. He dwelt upon the presence of a supra-papillary and of a retro-mitral space in the ventricle, showed that during contraction the posterior mitral flap is thrown into pleats, admits a powerful ventricular aspiration, and holds with those who accept a muscular and a valvular element in the first sound. By an ingenious arrangement of reflectors and lenses W. ENGELMANN has been able to exhibit magnified 35 times the action of the living heart of a frog upon a screen. J. A. MACWILLIAM has continued his researches on the physiology of the mammalian heart and discusses the influence of chloroform upon the rate of the heart-beat. Mr. W. H. THOMPSON has studied the effects of the intravascular injection of peptone and albumose, and shows that the vessels of the kidneys and limbs are but slightly affected, whilst those of the spleen undergo moderate, and those of the liver considerable, dilatation coincidently with the fall of blood-pressure. Professor SCHÄFER and Mr. S. VINCENT find that in the extract of the hypophysis cerebri there is a substance soluble in saline solution, but insoluble in alcohol and ether, which when injected into the veins increases blood-pressure, and another substance soluble in alcohol and ether as well as in saline solution which depresses the blood-pressure. The hypophysis cerebri has received attention from other quarters, V. KUPFER having studied its development and H. C. BENDA having read before the Pathological Society of Berlin a paper on its normal structure and pathological condition. The researches of E. V. CYON appear to show that it may supply a deficit of iodothyrin and act as a supplementary organ to the thyroid body. An important research has been carried out by Dr. J. L. BUNCH on the innervation of the muscular coat and the vessels of the intestines. His investigations show that these parts are supplied by the splanchnic nerves, which contain both constrictor and dilator fibres derived primarily from the spinal cord, and that in dogs they leave the spinal cord by the anterior roots of the second to the sixteenth post-cervical nerves, the higher roots containing a larger proportion of dilator fibres, the lower roots of constrictor fibres. Professor STARLING has shown that in the cat as well as in the dog excitation at any one spot of the intestine produces excitation above and inhibition below the excited spot. Dr. F. W. PAVY has followed up his investigations on the sugars in the blood and upon the effects of intravenous injection of various forms of sugar. It is well known that many animals can store up glycogen in the liver when they are restricted to a purely proteid diet. Professor J. SEEGEN, experimenting with liver extract, has found reason to believe that the proteids undergo a disintegration in the liver leading to the detachment of a molecule of a sugar-like substance containing nitrogen which by the action of a liver ferment undergoes further change, terminating in the production of glycogen. Similar conclusions have been arrived at by Dr. BERKHARD SCHÖNDORFF. On the other hand, two French observers, M. C. BOUCHARD and M. A. DESGREZ, have satisfied themselves that muscle glycogen can be formed in the body from incompletely oxidised fats. The experiments of R. COHN render it probable that glycogen can be derived from leucin and Dr. MARTIN JACOBY points out that there are probably many ferments in the liver. He has himself carefully followed out the characters of a ferment which is capable of oxidising salicyl-aldehyde and has given it the name of "aldehydase." An article written by Mr. H. F. BELLAMY and lately contributed to our columns deals with the function of the spleen. It was found long ago by Professor SCHIFF that after ligature of the splenic vessels at the hilum or after removal of the spleen as a whole trypsin fails to appear in any considerable quantity in the pancreatic juice or in an infusion of the gland during that stage of digestion in which, in the intact animal, it is normally present—that is, from four to seven hours after feeding. Hence Professor SCHIFF thought during the congestion of the spleen a substance is produced within the spleen which, carried away by the blood, gives to the pancreas what it requires to form its peptonising ferment. The discovery of the precursor of trypsin, trypsinogen, in the cells of the pancreas by HEIDENHAIN led Professor SCHIFF to repeat his former experiments in conjunction with Dr. HERZEN, and the general conclusion arrived at is that in addition to other functions the spleen furnishes a recrementitious product which causes in the pancreas the transformation of its inert zymogen into active trypsin.

The effects of sudden release from increased atmospheric pressure such as is experienced by those working at the foundation of bridges are well known to be serious and have been attributed to disturbance of the circulatory and respiratory systems. Dr. LEONARD HILL has placed animals under these conditions and finds that with dogs and cats exposed to rapid increase of pressure amounting to two atmospheres and rapid diminution to the ordinary pressure no effects beyond slight increase of the respiratory oscillation and slightly diminished frequency of the pulse occur. The mechanical congestion theory of caisson disease is regarded by Dr. LEONARD HILL as untenable. It would be pertinent to ask how Dr. HILL explains the hæmorrhage from nose and ears that have been observed when the pressure is too suddenly released.

The Croonian Lectures were delivered before the Royal College of Physicians of London by Dr. FREDERICK MOTT, who took for his subject the Degeneration of the Neuron and expressed himself in favour of the view that the terminal

arborisation of the axis-cylinder process of one neuron does not anatomically fuse with the cell-body and dendrons of another and that trophically and genetically the two are independent, yet that there is a physiological connexion between adjacent neurons. He also pointed out that the integrity of the sensory moiety of a reflex is almost as important as that of the motor segment; in other words, that sensation must be acute and perfect if the corresponding muscular movements are to retain their delicacy and precision. The second Hughlings Jackson Lecture was delivered before the Neurological Society by Professor HITZIG of Halle; and the lecturer, after bestowing a well-merited eulogium on the work of the physician after whom the lecture is named, proceeded to discuss the subject of the localisation of functions in definite areas of the cortex of the brain. He advocated the view that such centres exist and further contended that in regard to the motor centres two sets might be distinguished, a lower subcortical or reflex set called into play by impressions of hearing, vision, or other special sense, and a higher or cortical set concerned with conscious arbitrary motion.

Dr. A. GURWITSCH has shown that the sheath of SCHWANN of a medullated nerve is genetically an exogenous and quite foreign mesodermal formation. It does not, in the first instance, closely embrace the medullary sheath, but the space between the two is gradually filled up by the growth in girth of the axis-cylinder and of the medullary sheath. Dr. W. H. GASKELL, from a comparison of the cranial nerves in mammals with the nervous system in arthropods, finds additional support to his theory of mammalian descent through the arthropods.

Dr. BARBIERI finds that all mixed nerves have more sensory than motor nerves. The ganglia on the dorsal roots belong to the sympathetic system, and in the rabbit there are about 500 cells in each ganglion and about 3000 fibres as it traverses the ganglion.

From experiments with the ergograph Professor MOSSO finds that in soldiers after forced marches the power of the muscles of the arm and hand is diminished, so that, as IOTEYKO observes, whilst moderate exercise of the psycho-motor centres produces increased action or activity of both sensory and dynamogenic centres, exhaustion of one centre, as that effecting the movements of the lower limbs, causes depression of all centres and has a tendency to become generalised. He suggests that fatigue is due to some toxin entering the blood current. The muscle spindles described as long ago as 1863 by Professor KÖLLIKER have been subject to minute examination by Dr. F. PICK. They are fusiform, are surrounded by connective tissue, contain slender muscular fibres with motor end plates, and other thicker nerves, which form a plexus around the fibres and can be shown by degeneration experiments to conduct centripetally. He suggests that they are the receivers and transmitters of the nerve sense.

The origin of uric acid was the subject of an interesting discussion at the meeting of the British Medical Association. The discussion was opened by Professor W. D. HALLIBURTON, and was continued by Professor THOMAS H. MILROY, Dr. ALEXANDER HAIG, and others. The general conclusion appeared to be that it has a double origin, one part being the result of the disintegration of the nuclein taken in with the food, and another part proceeding from destructive changes of nuclein contained in the body, or, as Professor HALLIBURTON expressed it, part is of exogenous and part of endogenous origin. The latter portion is derived from the metabolism of the leucocytes that are so abundantly formed after the ingestion of food.

Several essays have lately appeared on the suprarenal capsules. E. O. HULTGREN and O. A. ANDERSSON in giving the results of a long series of observations and experiments state that extirpation of these bodies in cats and dogs and rabbits occasioned death within a week or ten days. Removal of the organ on one side was followed by the animal becoming thin for a short period. The retention of a small fragment was sufficient to preserve life, but when both are removed death supervenes with great fall of temperature. The metabolism of albumin, the quantity of hæmoglobin, and the number of red corpuscles were not affected. Injections of small quantities of adrenal extract caused temporary improvement, but when large quantities were injected death occurred in rabbits from œdema of the lungs. The injection of extract of the adrenals of rabbits, guinea-pigs, cats, rams, and steers caused rise of temperature in rabbits, whilst the extract of the adrenals of sheep, oxen, and pigs usually caused a fall of temperature. E. BORDIER and H. FRENKEL found that the intravenous injection of very small quantities of suprarenal watery extract caused immediate diminution, or even complete brief and temporary arrest of, the urinary secretion—a condition followed by increased secretion. A very curious inquiry into the effects of light upon general nutrition has been pursued by JUSTUS GAULE. He accidentally noticed that the fat bodies situated in the abdominal cavity near the sexual organs in frogs, and especially in winter frogs, are not to be found at night, but are reproduced in daylight. The stimulus to the reappearance of these bodies in daylight is not conducted through the eyes since the phenomenon occurs even after extirpation of the globes.

Publications, &c.

Numerous and valuable articles on Embryology have been published in the *Quarterly Journal of Microscopical Science*, as those of Dr. E. W. MACBRIDE on the Amphioxus, of Mr. J. P. HILL on the Embryology of the Marsupialia, of Mr. J. W. JENKINSON on that of the Mouse, and on the Nemerteans, by Mr. C. B. WILSON and Mr. W. R. COE, Dr. A. MASTERMAN on Phoronis, and others, all requiring much care and attention as well as knowledge of the details of microscopical research. The well-written and well-illustrated "Text-book of Embryology" by Dr. JOHN HEISLER of Philadelphia will prove useful to the student as well as to the practitioner. Particular parts of the subject have been worked at with care by different men; G. LEVI, for example, has studied the development of the human primordial cranium, C. RABL the development of the lens, E. V. WILCOX human spermatogenesis, and G. LOISEL spermatogenesis in the sparrow.

The bibliography for the year in physiology is considerable. Two important cyclopædias have been in course of publication. One of them, edited by Professor SCHÄFER of Edinburgh, who modestly names it a text-book, is just completed. It is written on the lines of the Handbook of Professor HERMANN, the several subjects being committed to the hands of experts. The second is edited by Professor RICHET of Paris and will extend to eight or nine volumes, four of which are now complete. A somewhat similar but less ambitious text-book is appearing in America under the able editorship of Professor W. H. HOWELL of the Johns Hopkins University, Baltimore, assisted by several leading physiologists of that country. The second volume of Professor MORAT and Professor DOYON'S "Traité de Physiologie" has appeared and a well-written text-book has been published by Dr. WINFIELD HALL of the Chicago University. New editions of the Manuals of WALLER, STEWART, and STARLING have been issued and Miss EMMA BILSTEIN has made a good translation of STÖHR'S well known text-book of histology.

ANÆSTHETICS.

Intra-spinal Cocainisation and Interstitial Infiltration.

Among the year's events in this department of medical science may be placed perhaps first in order, but rather on account of their novel development than of their intrinsic merit, the introduction of spinal cocainisation as a definite

mode of producing analgesia, and the extension of local anæsthesia by interstitial infiltration. To LEONARD CORNING, an American physician, must be accorded the initiation of the suggestion (1885) that an extended anæsthesia would follow the injection of local anæsthetic bodies into the sheaves of nerves or of the spinal cord itself. BIER, in his original monograph in 1899[1] put CORNING'S suggestion to the test of actual trial and employed the lumbar puncture. The tissues were infiltrated down to the vertebræ (SCHLEICH'S method) and a plugged needle (QUINCKE'S plan) was introduced into the spinal canal, some cerebro-spinal fluid was removed, and from 0·005 to 0·01 gramme of cocaine in solution was introduced. The analgesia appeared in from five to eight minutes and persisted in one case for 45 minutes. BIER reported more or less severe after-effects—headache, vomiting, depression, and rise in temperature. Besides the obvious danger of sepsis which BIER and others insist can be avoided there have been during the past year numerous grave complications and some deaths following this method of producing anæsthesia. BIER himself, writing in the *Münchener Medicinische Wochenschrift* of Sept. 1st, 1900, warns the profession against the wholesale adoption of the method, since he regards our knowledge of it as being at present too vague for its safe adoption except in certain cases. Serious accidents, he says, follow injections of five milligrammes and less. Under no circumstances does he permit more than 15 milligrammes. The method was discussed at some length at the Surgical Congress in Paris, and several speakers who were in favour of it yet admitted that deaths had followed intraspinal injections of cocaine (PHELPS). TUFFIER[2] has published 125 cases, including 58 laparotomies, of lumbar puncture made between the fourth and fifth vertebræ. Although he has gained a fairly wide experience and has performed a large number of operations he has been unable to eliminate more or less serious complications, such as vomiting which commonly commences soon after the injection and is often very severe, pallor, respiratory distress, headache, nearly always present and lasting from 15 to 24 hours, persistent paresis and rise of temperature. Out of 125 cases five deaths resulted, and although he exonerates the anæsthetic in four cases he states that the fifth patient died with symptoms of asphyxia. Many observers also have recorded cyanosis as a common symptom. RACOVICEANU-PITESCI and SEVEREANU of Bucharest have used the method largely and they refer to two deaths in Roumania as a direct result of it and to several serious complications and sequelæ. The former surgeon records 80 cases of cocaine toxæmia persisting for four or five days, while in three cases artificial respiration and stimulants were called for to save life. SEVEREANU likewise reported that he had met with great exhaustion and prostration which lasted for some days after injection. He used from one to four centigrammes. He regards the method as being unsatisfactory in that the patient witnesses the operation on his own person. Besides these undesirable accidents associated with this method GUMPRECHT[3] has published 17 cases in which lumbar puncture independently of the use of cocaine has been followed by dangerous conditions due probably to the operation. HENNEBERG and others have met with medullary hæmorrhage from the same cause. Various writers speak of the difficulty of getting the needle into the canal arising in some cases, especially in those in which the vertebræ are displaced or rigid. The method has also been used extensively in the United States and isolated observers have reported successful cases without dangerous symptoms. S. ORMOND GOLDAN met with vomiting in half of his 20 cases; the patients were first pale, then flushed. Headache was present in 50 per cent., and some rise of temperature and profuse sweats were also observed. Rigidity of the muscles of the back occurred in three patients, a troublesome symptom, which in one case persisted for a week. In three instances analgesia was never obtained.

[1] Deutsche Zeitschrift für Chirurgie, vol. li., p. 361.
[2] La Semaine Médicale, May 16th, 1900.
[3] Deutsche Medicinische Wochenschrift, June 14th, 1900.

Cocainisation in Parturition.

KREIS[4] was one of the first to use cocainisation of the spinal canal in obstetric practice. According to this observer the analgesia in his cases lasted two hours and the cocainisation did not interfere with the functions of the uterus. MARX[5] has recorded a series of cases of parturition without mishap. In these he obtained analgesia by injecting cocaine by the lumbar puncture. His experience with eucaine went to show that it was unsatisfactory for intra-spinal injection. He has also employed morphine, but in one case severe toxic symptoms followed it; he now advises that hydrobromate of hyoscine ($\frac{1}{100}$th grain) should be injected hypodermically in order to relieve the nausea, headache, and vomiting which he finds incidental to the puncture and spinal cocainisation. The statement that "there are frequent nausea, vomiting, severe headache, profuse perspiration, chilly sensations, temperature up to 102° and 103°" is not encouraging. MARX, whose careful paper deserves attention gives details of a number of cases. An obvious objection to intra-spinal cocainisation is insisted on by MATAS. It is that if the first injection fails to produce a sufficiently prolonged analgesia re-injection is, in obstetric cases, practically impossible. He limits the methods to adults, and to "reasonable persons" who have good self-control, when regional infiltration is impossible, to persons suffering from bronchitis, emphysema, or who for other reasons cannot take a general anæsthetic, and lastly, only to cases which can be completed in an hour and a half. A large number of papers dealing with intra-spinal cocainisation, giving more or less full reports of cases, have appeared since BIER'S first monograph, and although the writers make light of the adverse symptoms, which they impute to any cause other than the obvious one, BIER'S caution seems more than necessary. Communications of especial note dealing with the subject have appeared by FOWLER[6] (New York), ORMOND GOLDAN,[7] and MARX,[8] and a study of these papers confirms the statements made above. It is interesting to remark that among FOWLER'S cases several instances are reported in which analgesia could not be obtained. NICOLETTI'S (Naples) experiments on rabbits and dogs must also be referred to in this connexion. Intra-spinal injections of cocaine according to this observer produce no histo-pathological change in the nervous tissues—a fact which led NICOLETTI to believe that the analgesia is the result of vaso-motor effects consequent upon the action of such bodies as cocaine, ergotin, antipyrin, and quinine. Similar evidence of the immunity of the nervous structures was given in the necropsy of a patient published by SELDOWITSCH.[9] The patient died from cachexia. SELDOWITSCH'S cases all showed some of the symptoms described by most writers on this subject, while BIER'S first experience[10] was more favourable.

Neuro-regional Analgesia.

An attempt has also been made to produce "neuro-regional analgesia": (1) intra-neural, by injecting the cocaine into the large nerve-trunks supplying the region to be operated upon; or (2) para-neural, into the tissues about the nerve-trunks.

[4] Centralblatt für Gynäkologie, July 14th, 1900.
[5] Medical News, August 25th, 1900, and Medical Record, Oct. 6th 1900.
[6] Philadelphia Medical Journal, Nov. 3rd, 1900, p. 843.
[7] Ibid., p. 850. [8] Ibid., p. 857.
[9] Centralblatt für Chirurgie, vol. xxvi., p. 1110.
[10] Deutsche Zeitschrift für Chirurgie, Band li., Heft 3 and 4.

OBERST, KROGIUS, BRAUN, and KUMMER follow this method. MATAS, whose paper is referred to above, gives careful directions about these modes of producing analgesia in these ways, and to his writings we must refer our readers. SCHLEICH'S important work, "Schmerzlose Operationen," issued recently, gives a very fair account of the case for local analgesia, although it must be admitted that his method leaves much to be desired if true immunity from pain is aimed at. BARKER of University College Hospital has in our columns given his pronouncement in favour of eucaine β and has apparently been satisfied with his trials of local analgesia, using BRAUN'S modification of SCHLEICH'S original method.[11] CUSHING[12] reports a number of herniotomies done under local analgesia. In cases in which a general anæsthetic is undesirable infiltration with eucaine or cocaine is, he considers, most valuable. The patient is, he reminds us, however, longer under operation and feels pain to a certain extent.

Miscellaneous.

Some valuable work dealing with the physiology of the action of anæsthetics has been undertaken during the year. Experiments by Professor W. H. THOMPSON of Belfast appear to show that while ether and its mixtures give rise to an increase in the urinary water secreted, and of the total nitrogen per hour, chloroform brings about an opposite result. Chlorides were lessened under all anæsthetics. While chloroform caused glycosuria albuminuria was absent. KEMP and THOMSON, to whose experiments we have referred elsewhere in our columns, came to a conclusion which if confirmed would seriously affect the reputation of ether as a safe anæsthetic. Investigating the subject anew from the clinical as well as the experimental side DUDLEY BUXTON and A. G. LEVY have shown that the results arrived at by preceding workers were not in their entirety reliable since they had mistaken the effects of ether toxæmia for a normal "ether effect." This ether toxæmia never occurs in practice and in experiment only when the inhalation is conducted on very dangerous lines. The results arrived at by the last-named observers are extremely important but can only be mentioned briefly. Suppression of urine as a result of ether inhalation does not occur, albuminuria is extremely rare, and clinical evidence that they advance revealed that renal after-effects ensuing upon etherisation even when the kidneys are antecedently diseased are very rare. "Ether," they say, "should still be regarded as a very safe anæsthetic." Their experiments with chloroform are also of interest. The respiratory after-effects of ether formed the subject of an important discussion by the Society of Anæsthetists. The conclusion which, it appears, may be fairly drawn from it is that much confusion has arisen in the recording of cases; the anæsthetic, although occasionally at fault, but far less often so than is commonly stated, is in most instances one of many factors bringing about the pulmonary complication. A point advanced by MAYO ROBSON, and confirmed by others, being that in private practice respiratory effects are almost unknown, while in hospital practice, under less favourable conditions, pneumonia or bronchitis occasionally supervenes after operations undertaken under ether, J. FREEMAN, speaking before the Bath and Bristol Branch of the British Medical Association,[13] stated that out of 3000 etherisations in which persons of all ages were included he had only met with two cases of bronchitis.

MCCARDIE has recorded[14] a rare complication under ether—viz., spasmodic closure of the larynx—and a somewhat similar occurrence is reported by SHUTER in which respiration failed under ether. FEILCHENFELD'S[15] suggestion to give small doses of tincture of strophanthus (from five to six minims) on two nights before giving chloroform in cases of asthenic or excitable hearts is supported by carefully thought-out reasoning. WALKER (Durazno, Central Uruguay) has used anal injection of artificial serum in a case of chloroform collapse with success, but the rationale is not easy to grasp. As chloroform was given by the towel method it seems perhaps better to leave off using the towel, and so to avoid the necessity for employing the artificial serum. H. A. HARE, whose name is associated with much valuable experimental work dealing with the physiology of anæsthesia, has delivered a valuable address on anæsthetics in which he reiterates his view that chloroform accidents arise from vaso-motor paresis.[16] KRAMER'S[17] experimental investigation of the influence of stimulation of a sensory nerve on circulation and respiration under complete, and under incomplete, anæsthesia brings our acquaintance with this subject within the region of exact knowledge. His conclusion is that severe vaso-motor shock is more liable to follow operations done under partial anæsthesia than such as are done under complete insensibility. The method of massage of the heart which is called "Prus's plan," although successful according to Dr. PRUS in 76 per cent. of dogs which he poisoned with chloroform until cardiac action failed, was tried by him on a person who committed suicide, but without success. Dr. PRUS removes the rib cartilages and opens the pericardium. The measure, an heroic one, may have failed in this case because the person was an alcoholic subject whose heart muscle was probably past stimulation.

Mishaps under Anæsthesia.

We have repeatedly drawn attention to casualties under anæsthetics and have indicated the obvious lessons to be drawn. It is matter of regret that during the year many fatalities under chloroform have occurred, and too frequently in cases in which nitrous oxide, ether, or the A.C.E. mixture might have been more safely employed. The practice of giving chloroform in dental cases is one too obviously bad to need argument, and yet we have had again and again to report deaths arising through it. We may hope that in the new century wiser counsels may prevail. We also hope that the necessity for the better teaching and equipment of our hospitals in matters connected with anæsthetics, to which we referred recently in a leading article, may receive the recognition which it undoubtedly deserves.

No special advance in methods or apparatus has to be recorded for the year 1900, but a pronouncement by the General Medical Council that any medical man giving anæsthetics for a dentist who was not on the Dental Register would be liable to have his conduct investigated by that body is a noteworthy one for all anæsthetists.

MIRROR OF HOSPITAL PRACTICE.

The "Mirror of Hospital Practice" has during the year contained descriptions of many interesting and important cases from the hospitals of the metropolis and the provinces, and in some instances from the hospitals of our colonies. These cases serve to illustrate the treatment of the present day as carried out in these institutions and they may be taken to represent the present high level which surgical science has reached.

The best treatment of intussusception cannot yet be considered as finally determined, for some surgeons are still of opinion that laparotomy should always be preceded by an attempt at reduction by injection or inflation. It

[11] THE LANCET, Jan. 20th, 1900, p. 156.
[12] Annals of Surgery, January, 1900.
[13] Brit. Med. Jour., 1900, vol. i., p. 873.
[14] Ibid., p. 138.
[15] Centralblatt für Chirurgie, No. 4, 1900.
[16] Journal of the American Medical Association, March 24th, 1900.
[17] Annals of Surgery, September, 1900, p. 376.

is certain that either of these procedures may, if performed skilfully, be carried out without any real addition to the risk which the patient incurs, and certainly reduction sometimes occurs under this treatment. But in the majority of cases these attempts end in failure, and it is then necessary to submit to the shock of an abdominal section a child who has already been weakened by these procedures. If the laparotomy be performed only a few hours after the commencement of the intussusception a very small incision is needed, the reduction is quickly performed, and the shock is minimised. These remarks are illustrated by the cases that have appeared in the "Mirror." Dr. H. A. LEDIARD of Carlisle recorded two cases—one a child two years and five months and the other only six months of age. In each case attempts had been made to effect reduction by injection. Laparotomy was performed and both children recovered. Mr. HARRY LUPTON of Stratford-on-Avon operated on an infant, aged 10 months, who had the symptoms of an intussusception, and though great difficulty was experienced in reducing it the child recovered. In this case the operator was convinced from the tightness of the invagination that nothing short of laparotomy would have been of any avail. Mr. J. HOWSON RAY has recorded four cases in which he has operated for this condition. All the children were under the age of nine months and two recovered and two died. The two successful cases had lasted 12 hours and two days respectively, but the two fatal cases had lasted two and a half days and five days respectively, and in one of them it was found necessary to resect a portion of the bowel. Two interesting instances of this condition were recorded by Mr. LAWFORD KNAGGS of Leeds; in one a child, aged three and a half months, had a primary, a secondary, and a retrograde intussusception. In the other case the invagination was caused by a lipoma of the bowel.

Another subject which has been well illustrated in the "Mirror" during the past year is the antitoxin treatment of tetanus. The value of the antitoxin is only marked if it is given early before any large amount of toxin has been absorbed, and therefore its use is often very disappointing, but the antitoxin in moderate doses may be administered without danger, and therefore it may always be given; yet its employment should not prevent the other surgical treatment of the wound by which the continued absorption of toxins from the wound may be prevented.

The operation of total removal of the upper extremity, interscapulo-thoracic amputation, or Berger's operation as it is often called, is by no means frequently performed, but we have been able to publish the notes of two cases in which it was found necessary. The first case was under the care of Mr. T. J. VERRALL and the operation was performed for a sarcoma of the upper end of the humerus. No recurrence had taken place 22 months after the accident. The other case, which was under the care of Mr. EDMUND OWEN, was one in which after a very severe burn the whole arm and a part of the mammary region were entirely destitute of skin. The arm was perfectly useless, as apparently the muscles were affected. Local applications and skin graftings were of no avail, and it was therefore determined to remove the limb, and there was not sufficient covering for any amputation lower than the interscapulo-thoracic The patient recovered rapidly from the operation, and was well two months later.

Foreign bodies are by no means rarely found in the bladder, and they are probably much more frequently met with in the female bladder than in the male bladder, and this is due to the fact that the urethra in the female is much shorter and wider than in the male. One of the most curious examples of foreign bodies in the bladder was in a case under the care of Mr. J. H. MORGAN. A woman, 32 years of age, complained of symptoms pointing to a vesical calculus, and when she was sounded a stone was found and Mr. Morgan decided to perform lithotrity. When the stone had been crushed and the fragments were being washed out it was found that there were several bits of glass and globules of mercury amongst them. Some larger portions were removed by means of forceps and they were seen to be parts of a clinical thermometer. No history could be obtained of the introduction of the instrument. An interesting case was recorded by Mr. T. F. CHAVASSE, in which the husk of an oat made its way probably from the larynx to a situation under the skin of the neck whence it escaped after an incision had been made over it. Mr. CHAVASSE has also described another case of a foreign body; a little girl, three years old, swallowed a brass shawl pin, two and a half inches in length. Two months later it was removed from the abdominal wall a little below and to the left of the umbilicus. At Guy's Hospital under the care of the late Mr. J. N. C. DAVIES-COLLEY was a woman who seven months previously had swallowed a packing-case needle, four inches long. She had had at intervals attacks of severe pain on the left side of the abdomen, where a tender firm swelling developed. This was incised on two occasions. On the second operation the peritoneal cavity was opened and the needle was found in the descending colon, whence it was removed, and the patient recovered.

Thrombosis of any of the mesenteric vessels is a very rare cause of intestinal obstruction, and two cases have been recorded in the "Mirror." In one case, under the care of Mr. C. WHIPPLE, a man, 38 years of age, had 38 inches of the ileum which were deeply congested and in part gangrenous, the result of thrombosis of its mesenteric vessels. The symptoms produced were suggestive of obstruction but none could be found on operation and therefore an enterostomy was done but the patient died a few hours later. The other case was that of a man, 51 years of age, who died seven hours after he was admitted into St. Pancras Infirmary under the care of Dr. W. M. DUNLOP. He suffered from vomiting and was much collapsed. At the necropsy it was found that about two feet of the ileum were intensely congested and that the mesenteric veins corresponding to the congested bowel were thrombosed. No cause for the thrombosis could be discovered.

The blocking of the pelvic cavity by a tumour is an exceptional reason for the performance of Cæsarean section. In a case under the care of Dr. LLOYD ROBERTS of Manchester a fibroid tumour of the uterus was discovered at the commencement of labour. As only one and a half inches of available conjugate were left it were decided to perform Cæsarean section. The child lived and the mother also, though she had an acute septic attack which was apparently benefited by the use of anti-streptococcic serum. In another case Cæsarean section was performed in a case with some contraction of the pelvis and the foot presented with the head. The child was dead at the time of the operation, but the mother made an almost uninterrupted recovery.

Mr. D'ARCY POWER had an interesting case under his care at St. Bartholomew's Hospital. A man was admitted into the hospital for total suppression of urine, and though an examination was made of the right kidney no stone could be found, and the man died next day. At the post-mortem examination it was found that the left kidney was represented by a small thin piece of fibrous tissue, but a pervious ureter was present. The right kidney contained four small calculi, and the right ureter was patent.

An instance of compound separation of the lower epiphysis of the femur has been recorded by Mr. E. W. ROUGHTON. It occurred in a little boy, nearly six years old, who caught his legs in a wheel of a cab behind which he was riding. A

portion of the shaft of the femur necrosed and had to be removed, but the boy recovered with only about half an inch of shortening. The other femur was fractured at the same time and it united well.

Dr. EDMUND CAUTLEY has recorded one more case of the rare condition which has been named "congenital hypertrophic stenosis of the pylorus." Up to the present 32 cases of this curious condition have been described and 26 of these have been put on record within the last five years. The case was a fairly typical one, though, in place of the constipation which is usually present there were watery motions. The child, who had had vomiting constantly from birth, died on the day after admission to the Belgrave Hospital for Children, so that there was no time for treatment. Up to the present time only one case of recovery has been recorded and that was operated on, so that in the future an early operation seems to offer the best chance of recovery though the patients are hardly in a very suitable condition for operation.

In this country hydatids are by no means common, but we have recorded several in the "Mirror." In one case under Mr. RUTHERFORD MORISON there was one hydatid cyst in the liver and one also in the lung. In a man under the care of Surgeon F. H. A. CLAYTON, R.N., the diagnosis of hydatid of the liver was made by the discovery of daughter cysts in the motions. The patient suffered from symptoms resembling those caused by the passage of gall-stones along the bile-ducts. The symptoms all ceased after a time and the man apparently recovered without any operation.

Duodeno-choledochotomy is a name applied to the rare operation by which a gall-stone impacted at the termination of the common bile-duct is removed by opening the duodenum and then incising over the stone. It has been done in about 15 cases, with three deaths. Mr. FREDERICK PAGE successfully performed this operation on a woman, 59 years of age, who had been jaundiced for three months.

THE NAVAL AND MILITARY MEDICAL SERVICES.

The War in South Africa.

When summarising at the close of last year the events falling during the twelvemonth under this heading we wrote under circumstances of great gloom, for it was during the dark early days of the war in South Africa. Looking back on our articles during the first stages of the campaign there is a melancholy sort of satisfaction in finding that we expressed the opinion that the war would prove a much more formidable undertaking and would require a larger force than was generally imagined, although we had then no idea, of course, that it would prove so costly and formidable as it has done. But the state of matters in South Africa, if still unsatisfactory, is nevertheless different now from what it was then and during the beginning of the present and now closing year. Then it was the story of unpreparedness on our part, of insufficient and divided forces, beleaguered garrisons, and invaded territories. The fortitude and determination of our generals and the courage and determination of our troops enabled them to hold their own—and more, while the enemy, from want of a bold and original strategical scheme, missed their grand opportunity. Then Lord ROBERTS came on the scene with forces adequate to the emergency, and a speedy change occurred in the complexion of the campaign. Our misfortunes were retrieved everywhere. Our soldiers have had to fight under altogether exceptional conditions created by the recent improvements in arms and ammunition such as no other troops have ever yet had to encounter and against an alert and stubborn foe with a perfectly new system of tactics. They have acquitted themselves well.

If Paardeberg was, militarily speaking, the turning-point of the campaign, immediately afterwards came, as far as the medical services were concerned, the overwhelming difficulties of the war. Up to that time there can be no doubt that the medical arrangements were the bright spot of the campaign. The weight of skilled, expert, and independent testimony—that, for example, of Sir WILLIAM MACCORMAC, Mr. FREDERICK TREVES, and numerous others—was all to the same effect. The sudden and wholesale outbreak of enteric fever in a fatigued army, which had altogether outmarched its supplies and had not the necessary transport to bring them up promptly, will most probably, in our opinion, be found to account for the deplorable occurrences which temporarily obtained.

The prevention of the diseases incidental to war and the care of the sick and wounded during a campaign have always been, and, despite all we can do, will probably always continue to be, a very difficult problem for practical solution. As medical science advances and a growing feeling of patriotism and philanthropy on the part of the nation finds its expression in providing more and more admirably equipped hospitals, appliances, and organised aid, so must it become more and more difficult for a Government to compete successfully with outside efforts and to keep pace with the increasing demands of a luxurious age. The British Empire has possessions and interests everywhere and we are always engaged in some war or other, but no two of them are exactly alike or resemble the wars of other European Powers. In South Africa we have had to fight physical geography as well as a stubborn foe, and it was the former which caused the temporary collapse of our arrangements for the care of the sick. We need not enumerate the number and names of the civil hospitals and hospital ships which have been sent out to the seat of war. They have vied with one another in their attempts at completeness of plan and detail. The land service hospitals have been designed and fitted out—from an administrative and scientific point of view—with an elaboration of comfort and convenience which, considering their purpose and work, left little or nothing to be desired. The national movement in aid of the sick and wounded in war is one which deserves every support and encouragement. In any large war civil aid is now necessary, for no Government can, with the means at its command and by purely official methods, successfully cope with modern requirements. And in any case voluntary aid societies and organisations can render very effective help in supplementing the provision made by Government. As far as Government and the military authorities are concerned they can never lose sight of the fact that armies exist for the purpose of fighting and that they fight to win, and that, consequently, everything has to be subordinated to military success. The aims and objects of all field service medical regulations are to secure a due provision and proper distribution of men, material, and transport. The pivot of the whole system is to free the movement and action of a fighting force as far as possible, by dispensing with all needless reduplication of stores and appliances, and by relegating the sick and wounded in the direction which they must eventually take, if they prove inefficient—namely, to the hospitals in the rear, where they can be properly attended to. Some sort of medical equipment for war has to be provided and maintained by Government on a uniform and suitable scale and it must be more or less adapted for any occasion that may arise and must be supplemented to meet special requirements. As no limitations are imposed upon philanthropic sources of supply, either in aim or object, it is obviously unfair to compare them with the Government supplies. Taking the modern system of field medical service as a whole it is based upon thoroughly sound principles, but it must be capable

of being modified and adapted to circumstances if it is to prove effective. Sometimes it is extremely difficult to do this. The conditions in connexion with the war in South Africa were quite exceptional and may never occur again. Our army was fighting some 7000 miles away from England and over an area of about 160,000 square miles of territory with long and frequently interrupted lines of communication. There was a favourable combination of circumstances from a medical point of view nearly up to the capture and occupation of Bloemfontein. The battles were fought close to railroads and the British army was healthy. The time of stress and strain which was to test the efficiency of the army medical service had not arrived. But it came when the army had outmarched its supplies and when an outbreak of enteric fever followed on the insufficiency or breakdown of the transport. Then it became obvious. Undoubtedly all the circumstances were terribly against the medical service, but the fact remained that the hospitals and medical supplies were wanting.

The Medical Services of the Present and Future.

It is impossible for financial reasons to maintain in time of peace a Royal Army Medical Corps at a strength and on a scale adequate for the requirements of a big war. That the corps as it exists at present must be largely increased and that its officers must have increased facilities for professional study and training is obvious. The way in which this can be best accomplished must be considered hereafter. A radical and comprehensive reorganisation will be necessary for the purpose. But some scheme in the nature of the German system of keeping the civil medical element in touch with the army will also have to be introduced, as well as a method of welding all branches of the medical service—militia and volunteers—with the regulars and of giving all their members some training in military medical duties. The war in South Africa has opened a new chapter in the history of the British Empire by closely cementing the colonies with the motherland; and we have now to frame an organisation by which the whole strength of the medical element at our disposal can be made available in war. The aim in our future wars will rather have to be to take the hospital to the wounded than the wounded to the hospital. The field hospitals will require to be treated as independent units in every respect and to be furnished with adequate transport; and the bearer columns will probably have to be attached to, and utilised by, these hospitals. A more easy-working and active organisation will also have to be given to stationary hospitals to enable them to change their position and to move when and where they are required. The hospital nursing system will have to be largely increased and better provided for; but we do not believe that it is practicable or expedient to have female nurses with the moveable hospitals in the immediate track of the front fighting line. As regards the men of the Royal Army Medical Corps, it has always seemed to us that every attention should be given to their hospital training as orderlies and nurses, and that their military training in the way of parades and inspections should be curtailed as much as possible. The usefulness of such men lies in the former direction—as properly qualified attendants on the sick and wounded—and not in their acquaintance with military drills or their smartness as soldiers. The question of the organisation of a special service with a large sanitary executive for the carrying out of practical army hygiene will have to be considered and settled. There is much besides—such as having an army medical school in London instead of at Netley—affecting the medical service and all that appertains thereto which will have to be taken up in earnest in the coming army reforms, but whatever is done must be done deliberately and in time of peace.

Some Lessons of the War.

The feelings of disappointment and depression caused by the publication of Mr. BURDETT-COUTTS's letter in the *Times* reflecting upon the medical arrangements for the care of the sick and wounded will not easily be forgotten. Debates ensued in the House of Commons, and these were followed by the appointment of a Royal Commission, which proceeded to South Africa to investigate all the facts on the spot. The publication of the report of this Royal Commission has still to take place, and until this report sees the light it is best not to dogmatise hastily upon the subject.

The same may be said of the whole history of the war. The official report has yet to be prepared, and until the country is in full possession of facts judgment is premature. We have, however, had the gratification of being able to supply the readers of THE LANCET with a large and varied amount of information concerning the war. The use of the newest rifled weapons and modern projectiles has revolutionised many of our views about gunshot wounds and military surgery. The Mauser and other bullets of a similar kind are, happily, merciful missiles as regards the character of the wounds which they inflict, and the results have often been of a very remarkable character, constituting a revelation to surgeons as to what the human body can tolerate with relative impunity. Antiseptic surgery has, it is needless to say, been universally practised and with splendid results. The climate also was very favourable, and, as a rule, the atmosphere was clean, dry, and aseptic. Our thanks are due to Sir WILLIAM MAC CORMAC for his admirable and descriptive series of articles, while our readers are also indebted to a number of other contributors and correspondents for first-hand news from the seat of war. Many of the medical officers of the navy as well as those of the army and the Colonial forces—to say nothing of many distinguished hospital surgeons and others—have taken part in the campaign.

We cannot leave the subject of the war in South Africa without adverting to the spirit of patriotism, devotion, and self-sacrifice which it has evoked on the part of the medical profession, both civil and military. On no previous occasion has such an array of surgical and medical skill and ability been brought to bear upon field service work in coöperation with the regular military medical service. As regards the latter, it would be impossible to name all the medical officers deserving of mention. One and all, military and civil alike, the medical men in the Boer war have distinguished themselves by their arduous and cheerful service. Nor have they been behind the combatants in personal gallantry, and here we may be permitted to mention two names. As a sample of bravery and devotion the way in which Major W. BABTIE of the Royal Army Medical Corps won his Victoria Cross has never been excelled. The second name is that of an officer of the Colonial medical service. Captain ALBERT T. DUKA of the Queensland Army Medical Corps was the only medical officer shut up with the small force during the siege and successful defence of Elands river camp from August 4th to 16th. The exploit of the force is comparatively little known, or at any rate has not commanded the attention that has been given to many less striking episodes in the war. The besieging army was a large one commanded by General DELAREY, who continuously shelled and fired on the camp and succeeded in beating back General CARRINGTON'S relief force. The Elands river camp garrison lost heavily. There were 73 casualties out of a small force, and five men (besides a hospital orderly) were wounded a second time in the hospital extemporised for the occasion. The pluck and endurance shown by Captain DUKA were conspicuous, and the professional services that he rendered on the occasion were of an exceptional kind performed under very trying circumstances.

The Naval Medical Service.

A good deal of work has fallen upon the Naval Medical Service during the past year. The medical officers of that

service have taken a distinguished part in connexion with the naval brigades both in South Africa and China. In the former they were present, of course, at the siege of Ladysmith. Members of the service were also with Lord METHUEN'S force and took part in the operations under that general, several of them being mentioned in dispatches for their meritorious services. In the war in China the officers of the Naval Medical Service played a very responsible and important part in connexion with the relief force under Admiral Sir E. H. SEYMOUR.

The Indian Medical Service—the Indian Contingent for China.

As regards the Indian Medical Service we may say that the pressure upon the officers of that service has been great during the past year, owing to the continued prevalence of plague and famine and epidemic cholera and other diseases which are incidental to India. The very serious and critical state of affairs in China has, moreover, thrown upon the medical authorities of India the duty of making all the medical arrangements and the fitting out of a large hospital service for the expeditionary forces (mainly composed of the native army) to take part with the composite international forces of other Powers in the operations in China. From all we can gather we do not think that either the Indian or the Imperial Government has had practically much to learn from the other great military Powers in the fitting out and conduct of such expeditions or of the hospital services or provision of transport in connexion therewith. If the same amount of criticism had been brought to bear upon the conduct of affairs in China that has been applied in South Africa it would be found that this country has held its own. It seems, according to late reports, that the health of the German, and of our Indian, troops in China is bad. It is becoming very cold there, and as the Sikhs and native soldiers from India always feel the cold very much and are liable to acute pulmonary affections and recurrences of malaria fever at this season an increased amount of sickness among them is only what might be anticipated.

Ashanti.

The trouble in Ashanti must not be left without mention. From a medical as well as a military point of view the punitive expedition was a success, for, considering the unhealthy nature of the climate, the unfavourable seasons, and the hard work and exposure, it was attended with a relatively small loss of life. This is partly to be accounted for, no doubt, from the fact that mainly native forces inured to the climate were employed.

It will be seen from the foregoing that the history of the public medical services during the year 1900 has been almost entirely one of war. Let us hope that their history in 1901 may be one of peace and progress.

CHEMISTRY.

Radio-Activity.

Perhaps the phenomenon in chemistry which has attracted most attention and study during the year has been that comparatively newly-discovered property of certain substances which is now called "radio-activity." It would seem that there exists a group of elements which manifest radio-activity to a marked degree. Thus a new and most fascinating field of inquiry has been opened up since M. HENRI BECQUEREL observed that compounds of uranium in particular emit rays which affect a sensitive photographic plate through bodies usually considered opaque to light, and further that these radiations are deflected by a magnet and cause the discharge of an electrometer when brought to bear upon it. These rays have consequently so far been called "Becquerel rays" or uranic rays. But these rays appear to be emitted by other elements. Their discovery is next in importance to Professor ROENTGEN'S discovery of the rays which still have to be called "x," for it is announced that the study of radio-active substances has laid bare new elements. Recent investigations would appear to show that radio-activity is due to an element or elements not yet isolated. Up to the present it is said that uranium and thorium compounds alone are practically active—that is to say, that the property of emitting rays which act on photographic plates is assumed to be a specific property of uranium and thorium. Sir WILLIAM CROOKES in a number of very interesting experiments which he has made has shown that amongst the minerals which he employed for the purpose those that were radio-active contained either uranium or thorium. In regard to uranium Sir WILLIAM CROOKES has obtained evidence which tends to show that the supposed radio-activity is due to the presence of a foreign body and is not an inherent property of the element itself. For the present, therefore, the unknown body must be provisionally UrX. The question remains as to whether in thorium compounds the same body exists. Already some investigators in Paris believe that they have obtained distinct evidence that this high degree of radio-activity is due to a hitherto unknown element. A substance has been isolated which has since been called "radium," the properties of which, it is said, resemble those of pure barium. It possesses, however, a higher atomic weight. Later it was announced that by mere contact of this substance with a salt of barium its radio-active property was communicated and thus an artificially radio-active barium was obtained. It is evident that chemists are on the threshold of an entirely new field of research which promises to yield very remarkable results. The position at present appears to be that we know of radio-active bodies which have five different origins—the compounds of uranium, thorium, polonium, radium, and a substance resembling titanium. Uranium and thorium have, of course, been long known as well-defined chemical bodies, but the three last-named are so far only hypothetical elements. Of these radium is the best known, because greater study has been devoted to it.

The Transmuting of Elements.

The question of transmuting the elements has once more arisen, but this time attention has been turned not to the conversion of copper into gold, but to the conversion of phosphorus into arsenic and possibly antimony. As is well known, these elements are very "near relatives." The crux was, what was the black substance known as black phosphorus present in ordinary phosphorus after the addition of ammonia. It was suggested that it was arsenic produced by the action of ammonia on phosphorus. It has since been declared by Mr. T. FITTICA that he has, by acting upon phosphorus with ammonia in the presence of air, obtained a true transformation of phosphorus into arsenic, and according to his view the latter would appear to be a compound of phosphorus with nitrogen and oxygen. Later, the same investigator has stated that he has succeeded in transmuting phosphorus into antimony. These statements, one and all, are generally discredited, though, of course, the creed is fast gaining very general adherence that there is but one element, a primordial "stuff" out of which the rest of the elements have been and perhaps are being, elaborated. Whatever may be the truth in regard to these averred transmutations it is remarkable that quite recently it has been shown that arsenic may be administered in the form of a methyl compound—namely, cacodyl—in comparatively large quantity with relatively slight toxic results. Further, cacodyl is said to be almost a specific in debilitated conditions, replacing the phosphorus in nerve tissue. Does it replace phosphorus or is it arsenic transmuted into phosphorus?

Argon and Company.

Professor W. RAMSAY and his colleague Dr. M. TRAVERS have been busy studying the curious companions of argon.

So far argon would appear to be associated with three other elements called respectively "neon," "krypton," and "xenon." The place of these newly-discovered elements in the chemical hierarchy is still surrounded with obscurity, although they show a regularity in some respects which admits of their classification in the periodic code. But apparently there is little that is analogous between them, so that the properties of one do not necessarily suggest the properties of another. With the ordinary elements, as is well known, it was possible to predict by analogy the properties of an element yet undiscovered and missing in the periodic arrangement. There is, of course, a grand truth at the bottom of the periodic law but as yet this system of classification, it must be confessed, is still a conundrum. A gas apparently simulating argon was obtained by Dr. T. L. PHIPSON by passing dry cyanogen through a red-hot tube full of iron nails. The gas appears to be a carbide of nitrogen, but the announcement seems to have received little attention and certainly, up to the time of writing, no confirmation.

The Production of Ozone.

An interesting method for the production of ozone has been discovered by M. HENRI MOISSAN, who has shown that when fluorine comes into contact with water at a low temperature hydrofluoric acid is formed together with ozone. The case is one of polymerisation of oxygen which, of course, in the first instance is liberated by the fluorine. The method is not expensive and the ozone obtained is concentrated, and it is possible that this reaction may be of advantage for the commercial preparation of ozone.

Lotus Arabicus and Prussic Acid.

The production of prussic acid in nature has been well exemplified in the case of the *lotus Arabicus*, a small leguminous plant indigenous to Egypt and North Africa. Mr. WYNDHAM R. DUNSTAN found that when moistened with water and crushed the leaves of the plant evolved prussic acid in considerable quantity. The plant has proved highly poisonous to horses, sheep, and goats, and has been a source of anxiety to the military and civil authorities in Egypt. In the course of the investigation a new glucoside was recognised.

Desiccated Albumin.

Some interesting observations on the effect of desiccating albumin upon its coagulability have been made by Mr. J. BRETLAND FARMER. By carefully drying albumin this substance appears to be brought, so to speak, into a static condition. Chemical change or physico-chemical change is inhibited just as in an interaction between phosphorus and oxygen when conditions of complete dryness obtain. Similar conditions may be regarded to obtain in the case of protoplasm or micro-organisms which, when sufficiently desiccated, withstand conditions which otherwise would certainly promote chemical disintegration. "They—that is, the seeds and spores of certain bacteria—appear to be reduced to a static condition by drying, and the researches of ROMANES indicated no measurable chemical change as proceeding in them under these circumstances; and, again, the investigations of BROWN and ESCOMBE and of Sir W. THISELTON-DYER have also rendered it difficult to believe, when subjected to the other end of the scale of temperature, that any metabolism can really be proceeding. In these cases the molecular machinery of life is all present and intact, but the manifestation of vitality as measured by chemical movement and by the change in the condition of energy is absent. But such a state differs widely from death, seeing that when the conditions favourable to the continuous progress of those reactions which are associated with vitality are restored the organism proceeds to work in the normal manner once more. Similarly the albumin heated in the desiccated form retains, instead of changing, that particular molecular condition which enables it, on restoring the essential conditions of moisture, to coagulate in a normal fashion when heated to a suitable degree of temperature."

During the past year it is evident that chemistry has not been entirely approached from a narrow technical standpoint, for the labours of technical research have related to problems of vitality, and to those interactions going on in the human organism the study of which is calculated to raise medicine to a higher, because less empirical, position.

PUBLIC HEALTH.

The Plague at Glasgow, and its Lessons.

The closing year of the nineteenth century will be remarkable in history from the fact that for the first time since the days of the great mortality of the seventeenth century bubonic plague obtained a footing in one of our greatest centres of industry, and the epidemiologist of the future who records the waxing and waning of pandemics will perhaps occupy himself with a comparative study of the methods of control adopted now and in the past. Perchance, too, he will have to relate that in the year 1900 Great Britain received the first indications of what was to be her share of the pandemic wave, and he may perhaps deplore that the warning was not duly heeded, in that our smaller port sanitary authorities, certain riparian authorities, and numerous inland authorities failed to appreciate the writing on the wall. It has now been sufficiently demonstrated that, however plague may behave itself in the future, we in England possess at this moment no racial immunity from it. It is important, too, that the Glasgow outbreak should be properly interpreted, and that it should not be hastily assumed that when next the disease fixes itself upon this country it will be controlled with equal success. Dr. A. K. CHALMERS—the able medical officer of health of Glasgow—has set an admirable example to the country, and we are glad to see that his successful efforts in dealing with the plague have been officially and graciously acknowledged by the Local Government Board of Scotland. We should be glad to see his services recognised in one sense in even higher quarters, and in another by the municipal authority which he has served so well. But there is some evidence to show that the plague that visited Glasgow was of a somewhat kindly type, and that the disease possessed both a low striking power *quâ* infectivity and a low fatality rate. Moreover, the evidence does not, it would seem, point to rodents, such as rats, as having actively participated in the outbreak, and in this respect the Glasgow outbreak bears a marked contrast to that which occurred in Sydney in the early part of the year. There the connexion between the disease in rats and that in man seems to have been almost demonstrated; at any rate there can be no doubt as to the association. There is one great lesson which the events of the past year have brought home to us—that is, the tendency which plague manifests to develop in the poorer quarters of a city amid surroundings where both dirt and darkness are prevalent.

The advent of plague has done much to stimulate our authorities to action during 1900, and the port sanitary survey which was undertaken by the Medical Department of the Local Government Board could not have been more opportunely timed seeing that the warnings then given were, in fact, fully justified before the survey came to a close. Until, however, the next annual report of the medical officer of the Local Government Board is published—and the interval as yet may be considerable—we are not in a position to state precisely the results of the survey. It must be patent to anyone who is at all familiar with the records of the public health service that in our smaller ports and inland districts there is an enormous amount of work to be done before anything approaching security can be even thought of. By the term "security" we do not mean to convey an idea of absolute immunity from plague. If but

the foam of the next plague wave has a tendency to fleck the shores of Great Britain nothing we can do in the matter of medical inspection or of defunct quarantine will serve to keep the disease altogether at bay. The history of Glasgow alone is sufficient to demonstrate this fact, and we have recently had numerous instances—such as the case of plague at Llandaff and the several cases which occurred in the port of London—illustrative of the same conclusion. Our safety against an epidemic depends upon (*a*) the manner in which infected, or possibly infected, vessels are dealt with at our ports; (*b*) the promptitude with which the departure of passengers from such vessel to our inland districts is notified; and (*c*) the manner in which such information is dealt with. The fact that in the Glasgow outbreak plague had apparently existed for from two to three weeks before it was recognised is sufficient to indicate to us what our dangers may be, and the absence of any properly constituted port sanitary authorities in Scotland is by no means reassuring to those who fear that plague may reach us across the Scottish border. The case of Ireland, too, may have to be considered a little more in detail before we can face the future with any degree of equanimity.

In connexion with the important subject of plague mention must be made of the report issued by the Royal Commission on Plague upon the methods of preparing Mr. HAFFKINE'S preventive prophylactic, and upon the results of its use. Although the report is on the whole highly critical, no doubt is left upon the reader's mind as to the value of this prophylactic, notwithstanding the fact that the methods of manufacture come in for somewhat severe condemnation. It is under these circumstances a matter for congratulation that there is now in this country, whether at the Local Government Board or elsewhere, a supply of this valuable material. What may be termed the serum-therapy of plague has not had the advantage of such a critical examination as has the prophylactic culture of Mr. HAFFKINE, and the trial of YERSIN'S serum at Glasgow was not such as to lead to any very definite conclusions.

The Prevention of Tuberculosis.

The year 1900 will also be noticeable by the future chronicler in another relation—although the first year of the twentieth century may have greater claims in this respect. The net cast by preventive medicine grows larger year by year, and with its increasing size the individual meshes apparently contract. It is, however, but very rarely that the net is cast around another disease, and that disease thus brought within the scope of sanitary administration. But during the past year tuberculosis has received an altogether unique attention at the hands of sanitary authorities and their officers, and the "psychological moment" has evidently arrived for vigorous efforts to be made to curtail the ravages of this disease. The congress which is to be held in London at the end of next July, and which is to be presided over by the PRINCE of WALES, will, it is to be hoped, have the effect of stimulating public opinion up to the passing of useful measures through the Legislature. The erection of sanatoria for phthisical patients has already received a strong impetus, and 1900 will probably be regarded as the year in which this movement had its birth in this country.

Sewage Disposal.

The Royal Commission on Sewage Disposal has continued its sittings during another year and has paid visits to certain large towns where experimental works are in progress. We should be glad if we were able to anticipate the issue of at least an interim report which would have the effect of defining the position of the Commission relative to the important and really pressing subject as to whether or not the use of land is still to be insisted upon in all systems of sewage disposal, but we fear the knowledge hitherto acquired is not yet such as is capable of being focussed.

Food Preservatives and Substitutes.

The important question of the use of certain chemical preservatives in our food and drink has continued during the year to receive the attention of the Departmental Committee of the Local Government Board, and visits have been paid by members of that committee to Holland, Germany, Denmark, and Ireland, with a view to ascertain the practices in vogue in these countries in respect of this matter. Whatever may be the decision at which the committee arrives, some valuable evidence and important experimental results will doubtless be placed on record. Probably, too, the medical profession will in future pay more attention to this subject than has hitherto been the case. The uncontrolled use of substances which are at one and the same time both drugs and preservatives can hardly fail at times to lead to posological complications, seeing that the medical practitioner who prescribes one of the drugs in question may be quite unaware that his patient is already being, and has perhaps for years been, over-dosed with the same substance.

That there is pressing need for a more detailed examination of our food and drinks, and of the substances used in their preparation, has been recently brought home to us in a somewhat dramatic and startling fashion by the revelations as to the presence of arsenic in beer, and a question asked lately in Parliament as to the number of samples of sulphuric acid which have been examined by the Government analyst during the past year seems to indicate the direction in which reform is most urgently called for. In the matter of beer, as in certain other directions, the responsibility *quâ* purity is, it appears to us, not sufficiently defined, and the fact that the Treasury, the Home Office, the Local Government Board, the Board of Agriculture, and the Inland Revenue have certain functions and interests in this matter, has led to less control being exercised than obviously should have been the case.

The Prevention of Malaria, Yellow Fever, and Typhoid Fever.

In the domain of tropical medicine great advances have been made in our knowledge of the prevention of malaria by the destruction of certain species of mosquitoes, and the practical experiments conducted in the Roman Campagna and on the west coast of Africa have gone far to show that if the bites of these mosquitoes can be prevented, so also can malaria; in other words, that if the formula, "No mosquitoes, no malaria," does not convey all the truth, it does so to such a degree as to render action in this direction the most practical measure for controlling the disease. Dr. CELLI and Dr. KOCH have also laid much stress upon the presence of rice-fields as conducing to malaria, and the latter has remarked, "The more rice-fields there are in the neighbourhood of a place, and the nearer they are, the greater the abundance of mosquitoes."

The terrible prevalence of enteric fever among our troops in South Africa has afforded an altogether exceptional opportunity for the study of this disease under the conditions of modern warfare, but it is deeply to be regretted by all true epidemiologists that more advantage was not taken of the situation by the despatch of a really capable committee of trained epidemiologists to investigate the situation at the actual moment of prevalence. Doubtless the Commission which was despatched a few months since will bring back much highly valuable information, but it is quite clear that they have not been afforded a fair opportunity for adequate research. Some 15,655 cases, 3642 deaths, and 9128 invalids, will require no little investigation. Anti-typhoid inoculation has been submitted to some experimental tests in South Africa during the year under review, but we must await the official returns before judging the results.

The etiology of yellow fever has been further cleared up during the past year by Dr. WASDIN and Dr. GEDDINGS of the Marine Hospitals Service, Washington, U.S.A., who, in their report issued at the beginning of 1900, confirmed in most of the essential details the discoveries of Professor SANARELLI with reference to the bacillus icteroides being the specific organism of that disease and have also demonstrated that the infection of the disease is taken in by the breath.

The Housing of the Poor.

In the more exclusively administrative side of public health the year 1900 will for some five millions of our population situated in the County of London mark a new departure, and upon the corporations which have now replaced the old vestries will devolve the duty of guarding the health of the new metropolitan boroughs. All students of local government will watch the new corporations somewhat critically and anxiously to see if they set an example of purity of life to the local authorities throughout the country, or whether they degenerate into aggregations of interested place-seekers unduly influenced by the jerry-builder and insanitary property-owner. In connexion, however, with the subject of slum property the year 1900 has seen some good work, and although the modified machinery for applying the Housing of the Working Classes Acts cannot be accepted as in any sense final Mr. CHAPLIN'S Act may prove helpful to local authorities. The London County Council, too, are taking steps which may afford some useful lessons to those who are endeavouring to face these problems seriously, and the improved means of transit afforded by electric tramcars and underground railways must be regarded as not unconnected with the problems of the housing question.

Vaccination.

The new Vaccination Act, on the whole, is working smoothly, although in more than one large town the anti-vaccinationist is in a more fighting mood than are the officers whose duty it is to enforce the Act. But there seems little room for grievance left, and the scenes which took place under the old Act have ceased to occur. Still, Mr. WALTER LONG, the new President of the Local Government Board, must exert considerable tact and firmness if he wishes to report to Parliament at the expiration of the period for which the Act is operative that unqualified success has attended its administration. But the fact that the percentage of vaccinations to births was in 1899 72·1, as contrasted with 54·2 in 1898—an increase of 33·8 per cent.—is decidedly hopeful. Moreover, Mr. LONG has already shown himself to be a Minister of remarkable determination, and, if we mistake not, he will prove a vigorous administrator.

The Disposal of the Dead.

The sanitary condition and resources of London burial-grounds have been inquired into by the medical department of the London County Council during the past year and some interesting information has been accumulated. The indications are that the old idea of preserving the dead must give place to one which will expedite the resolution of our remains rapidly and withal inoffensively—that leaden coffins and deep brick graves must find a substitute in a method which will be more in keeping with the "earth to earth" of our burial service, with the findings of the bacteriologist, and with the dictates of economy; while for those who view with distaste even this relatively rapid decomposition of the body by earth-to-earth burial there is an increasing number of crematoria being erected where the same final result can be reached in the course of some two hours. The number of persons who appreciate this somewhat sudden rupture of material associations increases year by year, and it is estimated that at Woking alone at least 300 bodies have been thus dealt with during 1900. How will these figures compare with those for the year 2000?

Sanitation in Dublin.

The persistence of an exceptionally high death-rate in Dublin was in part explained by the description which our Special Sanitary Commissioner gave of the insanitary conditions prevailing there at the commencement of the year. As children had been the principal sufferers the reports which we published dealt extensively with the elementary schools. Many of these are situated in extremely unhealthy and overcrowded districts. They have not sufficient playgrounds or breathing space around them, but are wedged in between filthy dwellings or abut upon lanes where offal and offensive matter are allowed to accumulate. Inside the light is often deficient and sometimes no provision, or only very scant and insufficient provision, is made for washing. The children, especially at the industrial schools, are often extremely dirty, and it is not to be expected that under such circumstances they will grow up to appreciate the advantage of cleanly habits and healthy homes. These homes are generally in old houses that were built for one family but which have now been turned into tenements where many families reside. Of course they are not suited for such a purpose and the property is soon degraded. Filth of the most revolting description abounds on all sides, yet many of these slum dwellings are in the very centre of the town and near to the most fashionable quarters. There have been some noble efforts made to deal with the question of the housing of the poor, but in face of widespread poverty, of the dirty habits of the people, and of their complete ignorance of the principles of cleanliness these endeavours have only touched the fringe of the problem. Consequently epidemics follow one upon the other with regrettable and monotonous regularity. Much might be done to mitigate these evils if object lessons and practical lessons were given in the schools in cleanliness and domestic economy. Unfortunately, political and religious animosities hold the first rank where only practical questions of local administration should be dealt with, and in the wrangle of party strife the cause of sanitary reform is thrust into the background. Even in the management of hospitals the same strife occurs and sisterhoods interfere on religious grounds with purely technical medical matters. This introduction of religion and politics as dominating factors over matters of technical administration is one of the greatest obstacles in the way of efficient sanitary reform, and yet it is only necessary to refer to the appalling description given in our columns of the condition of Dublin to appreciate how much such reform is needed.

THE GENERAL MEDICAL COUNCIL.

The sessions of the General Medical Council have been of considerable interest from the number of important questions which have been raised as well as from the nature of the cases brought under the disciplinary notice of the Council. Important changes in the *personnel* of the Council have to be recorded as affecting the character of its debates. Mr. R. BRUDENELL CARTER, who long and ably represented the Apothecaries' Society of London, has been replaced by Sir HUGH REEVE BEEVOR. Sir RICHARD THORNE'S death was much felt in the Council. He was not restrained by his official position or by temperament from sharing boldly in the fray of discussion on all subjects. The great interests of the Crown in State Medicine are happily well guarded by his successor, Mr. W. H. POWER. If he has not yet acquired that freedom of debate which characterised his predecessor all who know him recognise that the Council has gained in him a clear and logical head. Sir PHILIP C. SMYLY resigned before the November meeting, and was succeeded in the representation of the Royal College of Surgeons in Ireland by Dr. CHARLES BENT BALL.

Professor ALFRED HARRY YOUNG takes the place of the lamented Dr. D. J. LEECH as representative of the Victoria University. A new member, adding to the size of the Council by representing a new constituency—Birmingham University—is Professor BERTRAM COGHILL ALAN WINDLE. Mr. WINTERBOTHAM has been appointed solicitor to the Council, on the resignation, after long and valued services, of Mr. F. W. FARRER. A well-deserved vote of thanks to Mr. FARRER was passed.

At the May meeting of the Council the deliberations were prolonged through nine days. Three days were almost wholly given up to the penal cases. One of the practitioners, a dentist, whose name was ordered to be erased was charged with "systematically seeking to attract professional practice by the issue of public advertisements of his name, address, appliances, and professional qualifications." This should serve as a warning to dentists, many of whom have a tendency to advertise in a way quite inconsistent with the status now conferred upon them by Act of Parliament. Such conduct will in future be the less excusable, because at this session the Council ordered its resolution disapproving of advertisement to be issued to every dentist on the Register.

At the November session there were, amongst others, two penal cases, involving somewhat new forms of complaint, which call for a short notice here. One was that of HENRY WARD IRVINE of Birmingham, registered as M.B., Bac. Surg., M.D., Univ. Dub., who had accepted office in an institution called the Consultative Medical and Surgical Institution, Birmingham. By the promoters of this institution he was extensively advertised as its consulting physician, and the question was whether he had condoned such advertisement and must therefore be considered to have advertised. The Council found the charge against Dr. IRVINE of infamous conduct in a professional respect proved and adjourned the further consideration of the case to the next May session. The other case was that of JOHN MARTIN THOMSON, of Airdrie, N.B., registered as M.B., Mast. Surg., Univ. Edin. He was charged with keeping a chemist's shop and employing assistants for the sale of drugs and poisons who were not qualified to act as chemists or pharmaceutical assistants. The chief defence was that the custom was universal in that part of Scotland. The Council found the charge proved and adjourned the further consideration of the case to the next May session. The prevalence of such a custom throughout Scotland is a matter of some importance to the Council, who should ask for proof of this statement with a view to formulating procedure. The construction of rules to prevent fraudulent personation seems to be attended with some difficulty, as the report of the committee in May was recommitted, and even in November no final report was presented.

The financial position of the Council is interesting. At the May meeting the Council gave, as a part of its expenses, £500 to the Branch Council of Ireland, which finds increasing difficulty in carrying on its branch work with the funds accruing from its own registrations. The other Branch Councils are in a better financial position, but, as may be seen from the report of the Special Finance Committee made at the November session, there is a tendency in late years for the expenditure to exceed the income. This is not so much from a falling off in income as from ever-increasing expenditure on law proceedings, on long sittings of the Council, on stationery, and generally by that lavish and generous humour which is generated in a body which has for some years accumulated money without using it. It will be seen that there is considerable difference of opinion in the Council as to the exact financial situation, some members being disposed to regard it more favourably than others. It is satisfactory that the Council has resolved that the whole financial position is to be referred to an expert for his consideration and advice and that his report is to be in the hands of members of the Council a month before the next meeting. There should be no serious difficulty in adjusting the income and expenditure of the Council, for the property of the Council is rising in value and the annual deficit is not a serious one.

A more difficult question than the financial one is the adjustment of the relations between the General Medical Council and the medical authorities, and the definition of their respective functions. Anything more unseemly or unprofitable than the friction between the Royal Colleges of Physicians of London and Surgeons of England on the one hand and the General Medical Council on the other, in respect of the recognition of institutions for the teaching of chemistry, physics, and biology cannot be imagined, and unfortunately it is only emphasised by the resolution of the Council at its late meeting to "adhere" to a position which it has no legal power to sustain and which may easily involve it in costly and undignified litigation. The calm judgment of the President will, it is to be hoped, avail to moderate feeling on both sides.

At the May meeting valuable reports from the experts who had been consulted by the Council as to the best means of raising the standard of preliminary education were presented by the Education Committee. The Council adopted the view of the committee that while it was not possible in the existing condition of education to require from all intending medical and dental students the standard of general attainments represented by the so-called senior and higher grade examinations, a substantial advance can be made by insisting on improvements in the character and stringency of junior examinations. Especially can these examinations be influenced by the Council who can require that candidates shall have obtained a higher standard than that of a simple pass. It was also determined to refuse registration to all students who have not attained the age of 16 years. At the November meeting it was reported that all the educational bodies were endeavouring to comply with the views of the Council.

An ill-advised suggestion of the Public Health Committee to divide candidates for Public Health Diplomas into two classes, junior and senior, and to facilitate unduly the acquisition of such diplomas by colonial practitioners was not accepted by the Council, which is sensible of its responsibility in this matter and of its power to enforce its views. At the November meeting the subject was disposed of by making the demands equal from all classes of candidates as respects the time to be devoted to laboratory work and work under a medical officer of health.

An important reminder of the subjection of the General Medical Council to the Privy Council in some subjects was supplied in May by an intimation from the latter body that at the proper time it will be prepared to apply Part 2 of the Medical Act, 1886, to Italy. This means, of course, that in due time some recognition of the rights of Italian medical practitioners to practise in England and *vice versâ* may be arranged. After the Order in Council the part of the General Medical Council under the Act comes into play in deciding before conceding registration whether any given foreign diploma guarantees sufficient knowledge and skill, and whether the applicant is of good character. It rests with the Queen in Council to decide if Italy has accorded just conditions of practice to Her Majesty's medical subjects in that country. The information conveyed in our Rome correspondent's letter last week, however, would indicate that it is very doubtful whether Her Majesty in Council will be in a position to declare that her medical subjects in Italy have been accorded "just conditions of practice."

THE BRITISH MEDICAL ASSOCIATION.

The sixty-eighth meeting of the British Medical Association was opened at Ipswich on Tuesday, July 31st, under the presidency of Dr. WILLIAM ALFRED ELLISTON, senior

surgeon to the East Suffolk and Ipswich Hospital. This is the first occasion upon which the Association has met at Ipswich. The meeting of the Association was this year rather handicapped by other meetings which occurred about the same time, notably the Centenary of the Royal College of Surgeons of England and the International Medical Congress held at Paris. But, on the whole, the meeting was successful and saw the beginning of a reform movement that may later be found full of significance. The Presidential and other addresses were, as might have been expected in the last year of a century, retrospective. Dr. W. A. ELLISTON took for the subject of his address Some Incidents in the Evolution of the Modern Physician Mr. F. TREVES, who gave the Address in Surgery, spoke upon the Surgeon in the Nineteenth Century. Dr. W. J. SMYLY, who gave the Address in Obstetrics upon the Maternal Mortality in Childbed, took a retrospect of the subject as it appeared from the beginning of the century until now; and only Dr. P. H. PYE-SMITH, who gave the Address in Medicine entitled "Medicine as a Science and Medicine as an Art," resisted the temptation to sum up the progress and the mistakes of the century. The discussions and papers were all round maintained at a high level, although there was nothing very startling to the fore. But the Ipswich meeting of 1900 may become memorable in the annals of the Association by reason of the carrying of a motion proposed by Mr. VICTOR HORSLEY in the following terms:—

"That a committee be appointed to consider and report upon the best means of reorganising the constitution of the British Medical Association, such committee to furnish a provisional report to the branches by March 1st, 1901."

After the date had been altered from March 1st to Feb. 1st this motion, which was unanimously carried on August 1st, resulted in the appointment of the following gentlemen as a committee. Those nominated by the Council were as follows:—For South Africa, Surgeon-General J. B. HAMILTON; for the East Indies, Mr. JAMES CANTLIE; for Ireland, Sir JOHN MOORE; for Scotland, Dr. J. C. MCVAIL; and for England, Dr. ROBERTS THOMSON, Dr. RADCLIFFE CROCKER, Mr. T. JENNER VERRALL, Dr. R. SAUNDBY, Dr. S. WOODCOCK, Dr. WARD COUSINS, Mr. H. T. BUTLIN, and Mr. ANDREW CLARK. Mr. HORSLEY'S nominations were: for the West Indies, Dr. C. G. GOODING, late of the Barbadoes; for Australasia, Mr. C. G. D. MORIER of Adelaide; for Scotland, Dr. R. C. BUIST of Dundee; for Ireland, Professor J. W. BYERS; for Canada, Mr. EDMUND OWEN; for England, Dr. A. COX, Dr. WILLIAM GORDON, Dr. C. H. MILBURN, Dr. A. G. BATEMAN, Dr. A. B. RITCHIE, Mr. J. S. WHITAKER and Mr. VICTOR HORSLEY. The report of the committee should be of great interest to the Association, that is, to a large section of the British medical profession.

VARIOUS HOSPITAL FUNDS.

When the many calls upon the purses of the charitable during the past year are taken into consideration the promoters of the Metropolitan Hospital Sunday Fund are to be congratulated upon the success of their labours on behalf of the sick and needy poor of the metropolis. Under the presidency of the Right Hon. Sir ALFRED J. NEWTON, Bart., Lord Mayor, treasurer of the Fund, a total of £51,993 14*s.* 6*d.* was collected. This shows a falling off from last year when the total was £53,504 11*s.* 1*d.*, but not including last year the present total is the largest one since 1895. The amount collected by the various congregations was £35 856 8*s.* 11*d.* and the legacies, special donations, &c., made up a sum of £16,137 5*s.* 7*d.*, this latter sum including £10,000 from Mr. GEORGE HERRING, £1090 from the late Mr. THOMAS KING of Tisbury, Wilts, and an anonymous donation from "F. H." of £1000. It should be mentioned that Mr. HERRING offered to give an additional £10,000 if the collection could be raised to £90,000. Sir SAVILE CROSSLEY for the tenth time gave £500; "A. G. P.," £300; and "Delta," for the twenty-second time, £200. At the meeting of the committee of distribution in July it was decided to divide the sum of £46,492 among 140 hospitals and 54 dispensaries. Among the largest of the contributions from the congregations the Rev. Prebendary C. J. RIDGEWAY, of Christ Church, Lancaster-gate, headed the list of contributions with £1519, and the Rev. Canon FLEMING of St. Michael's, Chester-square, collected £1158 from his congregation. The Rev. Prebendary EARDLEY WILMOT, M.A., of St. Jude's, South Kensington, collected £655.

The energy displayed by the workers for the Hospital Saturday Fund is worthy of all praise. Notwithstanding the exceptional strain upon public charity this year this Fund shows no falling off; indeed, up to the end of last week it was £184 ahead of the amount collected up to the corresponding period last year. The accounts of this Fund are not made up until the new year, so that no proper comparison can be drawn between this and the other metropolitan funds. The amount distributed last year was £17,013 13*s.* 8*d.*, a sum practically made up of the pennies of working-people. An interesting fact worthy of note in connexion with this Fund is that the deficit which was at first entailed by the abandonment of the annual street collection has in three years been fully made up.

The Prince of Wales's Hospital Fund has this year received £26,888 in annual subscriptions, £8523 from donations, undefined contributions, and newspaper collections, £6038 from investments, £1000 from a legacy by Madame ROSA ANN DELEGLISE, £1000 as an annual grant from the trustees of the London Parochial Charities for the maintenance of convalescent hospitals, and other smaller sums, making a total of £43 468 13*s.* 1*d.* In addition to this £6000 were received from the League of Mercy. The annual subscriptions show an increase of £1200 over the amount of last year. The donations, on the other hand, are £5000 less. A legacy of £3000 from Sir H. P. TURNER BARRON will probably be paid in 1901. £50,000 have been distributed, of which £49 000 went to hospitals and £1000 to convalescent homes. This is an increase of £8000 on the amount distributed last year, and last year there was an increase of £9000 over the previous year.

In application to all the funds we heartily re-echo the words of His Royal Highness the PRINCE of WALES when recently in referring to his own Fund he said: "I can only hope that as time goes on the Fund may increase in prosperity, so that the great object we had in view, that of placing the hospitals of this great metropolis on a thoroughly sound financial basis, may be accomplished."

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

The manner in which Dr. WILLIAM SELBY CHURCH fulfilled the duties of President during his first year of office left but little doubt as to his re-election, and at a comitia held on April 9th Dr. CHURCH was again installed in the chair by an almost unanimous vote of the Fellows. On July 11th the President informed the College that he had accepted the invitation made to him, as President of the College, by the Secretary of State for the War Department, to become a member of the Commission appointed by the Government to inquire into the condition of the sick and wounded in South Africa, and in accordance with the by-laws he nominated Dr. F. W. PAVY to act as President during his absence.

During the year an important alteration was made in the by-law dealing with the permanent or temporary expulsion of a Fellow, Member, or Licentiate from the College.

A report, dated Nov. 20th, from the Committee on the Nomenclature of Diarrhœa was received, in which it was recommended that the term "epidemic enteritis" should be used as a synonym for epidemic diarrhœa and that the College should urge the entire disuse as synonyms of epidemic diarrhœa in medical certificates of death of such terms as "gastro-enteritis," "muco-enteritis," or "gastric catarrh."

By-laws were enacted and approved relating to the representatives of the Royal College of Physicians of London who should be appointed members of the University of London. It was determined that the representatives should always be Fellows of the College and the mode of their election was precisely laid down.

The subject of the Weber-Parkes Prize Essay for 1903 was announced to be "The Channels of Infection in Tuberculosis, together with the conditions, original or acquired, which render the different tissues vulnerable."

A communication was received from the Secretary of State for the War Department asking the advice of the College on a proposal for encouraging the investigation of the nature and cause of dysentery affecting armies in the field and its relationship (if any) to enteric fever. The President was requested to express to the Secretary of State the hearty appreciation of the College of the proposal submitted and to suggest that in its opinion the end in view would best be attained by appointing a small commission of suitably qualified persons to conduct the inquiry. A subsequent communication from the Secretary of State announced the appointment of the following commissioners:—Dr. W. J. R. SIMPSON, Colonel J. L. NOTTER, R.A.M.C. (Professor of Military Hygiene, Army Medical School, Netley), and Major D. BRUCE, R.A.M.C.

The following awards were made during the year:—The Blane Medals to Staff-Surgeon JAMES M. ROGERS, R.N., F.R.C.S. Eng., and Surgeon OSWALD REES, R.N., M.D Glasg., and the Jenks Scholarship to Mr. ALFRED GEORGE SWAN.

The following lectures were delivered during the year: the Milroy Lectures by Dr. F. J. WALDO on Summer Diarrhœa, with Special Relation to Causation and Prevention; the Goulstonian Lectures by Dr. PERCIVAL HORTON-SMITH on the Typhoid Bacillus and Typhoid Fever; the Lumleian Lectures by Dr. W. B. CHEADLE on Some Cirrhoses of the Liver; the Croonian Lectures by Dr. F. W. MOTT on the Degeneration of the Neurone; and the Bradshaw Lecture by Dr. ARCHIBALD E. GARROD on the Urinary Pigments in their Pathological Aspects. Professor CLIFFORD ALLBUTT was the Harveian orator for the year.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The chief event of the year 1900 has certainly been the celebration of the centenary of the granting of the Charter in 1800, whereby the old Surgeons' Company, which had become dissolved, was reconstituted and incorporated under the name of the Royal College of Surgeons of England. About a year ago the Council obtained a Supplementary Charter whereby they became empowered to grant diplomas of Honorary Fellowship not exceeding 50 in number. The centenary celebrations commenced with the conferring of the Honorary Fellowship on the PRINCE of WALES. A conversazione took place at the College and the centenary meeting was held in the late theatre of the University of London, when the President, Sir WILLIAM MACCORMAC, welcomed the guests, and then conferred the honorary diplomas on 34 foreign and British representative surgeons. It should be mentioned, however, that in addition to the PRINCE of WALES the Marquis of SALISBURY and the Earl of ROSEBERY were also made Honorary Fellows. On the same evening was held the centenary dinner in Lincoln's Inn Hall. The centenary festival was in every way a success and was worthy of the College and of the occasion.

At the annual election of members of the Council there were four vacancies, as Sir THOMAS SMITH, Mr. JOHN TWEEDY, and Mr. ALFRED COOPER retired, and Mr. J. N. C. DAVIES-COLLEY had resigned and subsequently died. Sir THOMAS SMITH did not seek re-election, but there were in all 12 candidates, and Mr. TWEEDY and Mr. COOPER were re-elected and Mr. A. PEARCE GOULD and Dr. J. WARD COUSINS were elected.

The annual meeting of Fellows was fixed for July 5th, but the number required for a quorum not being present no meeting was held. This is the fourth time that a meeting has been summoned and a quorum has not been present, and it is not at all unlikely that in future the regular meetings will be discontinued and that a meeting will only be summoned when the Council considers it necessary.

The annual meeting of Fellows and Members was held on Nov. 15th, when the Council was requested to have the names of deceased Members printed in the annual report, and a resolution was carried to the effect that the Council was asked to obtain representation for the Members. Another resolution requested the Council to take steps towards obtaining a Parliamentary inquiry into the working of the Medical Acts with a view to their amendment. A further resolution expressed the opinion that every Member of the College was entitled to receive a copy of the annual report from the Council without application. Another resolution asked the Council to agree to the recent recommendations of the General Medical Council with regard to the combination with the Apothecaries' Society and the question of the commencement of scientific studies. The Council at its next meeting acceded to the request that the names of the deceased Members should be published in the annual report, but they thought that it was not desirable to re-open the question of the representation of the Members on the Council. It was also decided that the annual report should be sent to those Fellows and Members only who apply for it.

Two Members were elected to the Fellowship under the 20-years' rule—Brigade-Surgeon-Lieutenant-Colonel W. R. HOOPER, C.S.I., I.M.S., and Mr. FREDERICK PAGE of Newcastle. Mr. JOHN LANGTON delivered the Bradshaw Lecture on the Association of Inguinal Hernia with the Descent of the Testis. The Jacksonian Prize was awarded to Dr. LAMBERT LACK for an essay on the Pathology, Diagnosis, and Treatment of Inflammatory Affections of the Nasal Fossæ and the Associated Sinuses and Air Cells. The subject of the Jacksonian Prize for 1901 is the Diagnosis and Treat ment of Bullet-wounds of the Chest and Abdomen. The John Tomes Prize was awarded to Mr. J. H. MUMMERY. Mr. EDWARD TRIMMER, M.A., the Secretary of the College, who has been connected with the institution for 42 years, has resigned, and his resignation will date from March next. Mr. SIBERT COWELL, B.A., who has been assistant secretary, has been appointed to succeed him.

BENEVOLENT AGENCIES OF THE PROFESSION.

The Royal Medical Benevolent College, which provides pensions for aged medical men and the widows of medical men in reduced circumstances and a school open to all classes but offering special advantages to the sons of medical men, 50 of whom are foundation scholars, sorely needs greater support than it receives. There are 50 pensioners, all of whom receive annuities of £30, with the exception of a few still occupying rooms in the asylum who receive £21. There are also nine "Pugh" pensioners who receive £30 a year each, two "Da Silva" pensioners, each of whom receives a pension of £20 per annum in addition to the out-pension given by the College, and three "Morgan" annuitants who receive annuities of £20 each. 50 foundation scholars receive an education of the highest class and

are boarded, clothed, and maintained at the expense of the College. Nine perpetual presentations for female orphans of medical men and one with certain restrictions open to those who are not orphans exist in connexion with the College at the School of St. Anne's Society. As the College has not much in the way of permanent income the cost of maintaining the 50 foundation scholars and the 50 pensioners has to be defrayed mainly out of the annual subscriptions and donations and these have for some years past been insufficient for the purpose.

The income of the British Medical Benevolent Fund has barely covered the outlay and subscriptions are urgently needed to maintain the efficiency of the grant department. The annuity department shows an income from investments of £2350, while the amount paid in annuities is £2213. The annuitants number 111. In the grant department the income from subscriptions and donations is £1691, while the amount voted by the committee in payment of grants totals £1685. Had it not been for two large and unexpected donations there would have been a serious deficiency. 165 cases have been relieved.

The Society for the Relief of Widows and Orphans of Medical Men was founded in 1788 and incorporated by Royal Charter in 1864. The benefits of the society are confined to the widows and orphans of deceased members of the society, and any registered member of the profession residing within a radius of 20 miles from Charing Cross is eligible for proposal as a member of the society. The receipts for 1899 amounted to £3353 and the grants and expenses to £3250 13*s.* 1*d.*

THE LANCET Relief Fund still continues to relieve cases of temporary distress, and the report for 1900, which will be published in an early issue of THE LANCET, will probably show that the number of cases dealt with this year is greater than that of last year. The amount expended in gifts may also show an increase.

ANALYTICAL COMMISSIONS OF THE LANCET.

The investigations undertaken in THE LANCET Laboratory during the past year have been of general interest. In view of the inquiry into the question of the use of preservatives and colouring matters in food by a committee appointed by the Local Government Board—before which committee one of our Commissioners gave evidence—it occurred to us that a history of the subject would be looked for at this stage and only in the past pages of THE LANCET could such a history be found. In 1851 public attention was first drawn to the preservation and artificial colouring of food by the labours of the Analytical Sanitary Commission of THE LANCET instituted by the late Mr. THOMAS WAKLEY, M.P., the Founder of the journal. In the first number of the present year will be found an article entitled "An Historical Record of the Use of Preservatives and Colouring Matters in Food, according to the Inquiries of the Analytical Sanitary Commission of THE LANCET from 1851 to the present time." This article is a *résumé* of the various articles and communications which appeared in THE LANCET when the subject was first mooted half a century ago, and we believe that this historical synopsis has proved instructive in showing the origin and early uses of artificial colouring matters and preservatives in food, as well as by drawing a contrast between past and present methods. The committee of inquiry referred to has not yet reported or drawn up any recommendations as to the direction in which legislation may be directed for the better security of a pure food-supply from the points of view indicated. We predicted that the inquiry would involve a considerable amount of time and labour, though we believe the Local Government Board at the outset thought that short work could be made of the subject in hand. As it is the inquiry has lasted well over a year and the report is not yet to hand, but a question recently put in the House of Commons elicited the statement that it might be ready by March next.

In THE LANCET of May 5th (p. 1298) our Commissioners drew attention to the composition of custard powders which are so often recommended in place of eggs for the preparation of a custard. As a matter of fact our analyses of several powders showed that the albumen found in them ranged from 3 per cent. to *nil.*, while in none of them was there any fat. They consisted chiefly of starch coloured with turmeric or an aniline dye. As was pointed out, such a mixture cannot compare dietetically with the true custard made with milk and eggs. The matter is of some importance, especially as custard is employed as an acceptable food for invalids. The custard powders examined were in no sense equal to eggs and milk.

In the same number of THE LANCET (p. 1299) appeared a chemical account of the colouring of the new halfpenny postage stamp which early in the year was altered to green from red in order that it might conform with the colour of the stamps of the same value in other countries. The colouring we found to consist of a mixture of Prussian blue and a chrome colour. No lead or arsenic, or other mineral irritant could be found. The gum was the dextrinous substance derived by heating starch, called British gum. The chemistry of the new halfpenny stamp, therefore, is satisfactory, but, of course, as our readers were reminded, postage stamps are constantly exposed to the risk of contamination with septic organisms, which fact renders the common habit of licking them very undesirable.

Statements appeared frequently in the press in the early part of the year to the effect that amongst other unfair devices adopted by the Boers in the present war was that of coating the Mauser bullet with a poisonous salt of copper. By the courtesy of Sir WILLIAM MACCORMAC, who placed at our disposal some of the so-called copper-dipped bullets, our Commissioners were able to submit the coating, as well as the case which enclosed the bullet, to analysis. The metal case was found to contain both nickel and copper. The wax outside was shown to be identical with that used in candle-making. Since candle-wax contains stearic acid it would most likely act upon the metal of the case, producing in a similar way the green "tears" commonly found hanging from brass candlesticks. A good deal of the wax could be scraped off and was quite white, the green portion being next to the metal case. In this layer of wax both nickel and copper were found. These results were quite inconsistent with the theory that the Boers had maliciously coated their bullets with poisonous copper salts.

The next subject which engaged the attention of our Laboratory Commissioners was the Sparklet system of extemporaneously aerating liquids. The inquiry related to (1) the safety of the method arising from (*a*) the sparklet or bomb containing liquid carbonic acid gas and (*b*) from pressure in the charging bottle; (2) the purity of the gas; and (3) the purity of the finished product and its chances of contamination. We were satisfied as to the safety of the method and to a great extent also as to the purity of the aerated liquid obtained. On this last point, however, we made a few suggestions which if acted upon should give greater security in this regard.

A very interesting enterprise in the direction of hydrotherapeutics at Shanklin in the Isle of Wight was the next subject of inquiry. We refer to the ferruginous baths which have recently been constructed there on the exact plan adopted at Homburg Spa, Schwalbach, and elsewhere. A number of analyses of the water of the ferruginous spring at Shanklin Spa were made on the spot, and afterwards a complete account of the composition of the water was published from THE LANCET Laboratory. At the same

time the ingenious system of heating the baths, by means of which the natural condition of the water is undisturbed, was described with some detail.

The number of specimens of food, drugs, and other articles examined in THE LANCET Laboratory and reported on in our Analytical Records column was exactly 100, and the number of individual determinations thus involved was 373. In connexion with special analytical work some 34 analytical determinations were made, bringing up the total analyses to 407.

THE INTERNATIONAL CONGRESSES IN PARIS.

Early in 1899 we began the publication of articles designed to arouse interest in the great international medical congresses to be held in the following year in connexion with the Universal Exhibition at Paris. It must be confessed that our endeavours did not meet with that measure of success which, under normal circumstances, would have been secured. As we have always maintained that the progress of science should not be checked by frontier demarcations, we have been anxious that Great Britain should be adequately represented at all international scientific gatherings. This year the war in South Africa very materially interfered with our aspirations in this respect. So many physicians and surgeons went to the front that those who remained in England had more than their usual amount of work to do and were therefore less able to find time to attend congresses. Also, the natural anxiety caused by the war and the mourning for lost friends or relatives made others less inclined to take part in congresses and their accompanying festivities. Thus the medical world at the Paris Exhibition had to endure the absence of many who, under more propitious circumstances, would have largely contributed to uphold the fame of British science in these parliaments of the world. So also with regard to the Exhibition itself, we fear that its innumerable useful and practical lessons have been lost to many members of the profession who in normal times would certainly have visited this unparalleled collection of the works of civilisation. At any rate we have endeavoured to supply our readers with descriptions of the Exhibition and of the many congresses.

First International Congress on Deontology.

Particularly anxious were we to give the fullest prominence to all that was done to improve the moral and material position of members of the medical profession. The economic evolution which is revolutionising the social conditions of all the great industrial peoples has also affected the medical profession, and not only in Great Britain, but throughout all civilised countries. Consequently, we have had, for the first time in European history, a great international congress attended by medical men from all parts of the world, gathered together to discuss solely the economic position of medical practitioners, and the ethical principles necessary to meet and to mitigate newly developed evils. Unfortunately the attendance of British representatives was very small, and this was due, not only to the causes enumerated above, but also to the fact that the International Congress on Medical Deontology or Ethics met at about the same time as the annual meeting of the British Medical Association. Nevertheless, the economic difficulties that beset the medical profession in England were explained to the congress, amongst others by our Special Commissioner, who has now for several years been contributing special reports on the subject to these columns. From Germany and Austria came encouraging accounts of the formation in those countries of medical chambers somewhat after the model of chambers of commerce. Medical associations in Hungary, Roumania, and Norway also give good promise, while the medical syndical chambers or unions of France and Belgium are militant institutions that are really fighting very actively for necessary reforms. All this work of organisation has also influenced the legislature of some countries and the laws regulating medical practice have been improved. The results altogether of this first congress were so encouraging that it was determined to continue the work, and a second International Congress of Deontology will be held in Belgium three years hence. It is to be hoped that on that occasion Great Britain will be better represented than she was at the first congress.

First International Congress of the Medical Press.

But this was not the only congress dealing with the organisation of the medical profession. It was followed immediately by the International Congress of the Medical Press, at which THE LANCET, the *British Medical Journal*, and a great number of continental and American medical journals were represented. In some countries the necessity for an improvement in the medical press is, unfortunately, but too evident, and this congress was the first step taken in that direction. The object was to convert medical journalism into a profession actuated by a proper sense of its dignity and governed by self-imposed and generally recognised ethical laws. In this wholesome work the British medical journalists were able to take a leading part. But a great difficulty arose in defining what really constituted a medical journalist. Should a medical man engaged in medical practice own and edit a medical journal? If so, what was to prevent such a paper becoming a means of self-advertisement? Again, if the journal, as is the case with regard to some journals on the continent, is owned by a firm of wholesale druggists, what was to prevent such a journal from becoming a means of unfairly advertising the special drugs produced by that particular firm? How to create in all countries a medical press that should be above suspicion and to secure the services of medical journalists who should be sufficiently paid to be fearless and independent in their criticisms is a problem hard to decide in countries where many of the so-called medical journals are little better than trade circulars. That this ideal had actually been achieved in England was a source of much encouragement to the congress; and in this congress, at least, the British representatives were able to occupy the foremost rank and to render efficient help to the work taken in hand. So complex were the difficulties, so urgent was the need of reform, that the congress not only resolved to meet again, but instead of deferring such meeting for some years it was decided that the Second International Congress of the Medical Press should be held at Brussels next year.

Thirteenth International Congress of Medicine.

Hardly had this congress terminated than the largest of all the congresses began, for more than 5000 delegates and members attended the Thirteenth International Congress of Medicine. Divided into 28 sections, each section constituted a congress in itself and each will issue a weighty volume describing its proceedings. The papers read in these sections bore evidence of a great deal of hard work, but the new theories broached or new discoveries described were not numerous. Apart from the ordinary debates many visits were made to various hospitals and cliniques, and of course to the technical sections of the exhibition. On the other hand, some of the State receptions and entertainments that had been announced were postponed in consequence of the assassination of the King of ITALY, which occurred just before the congress met. A large staff of able collaborators enabled us to give our readers a very full account of the International Medical Congress.

Tenth International Congress of Hygiene.

The Tenth International Congress of Hygiene and Demography followed upon the International Medical Congress, and of all the four great medical congresses it was certainly the best organised. The Congress of Deontology

was also well managed, while that of the Medical Press, being necessarily small, did not give rise to any great difficulty in regard to management, but there was certainly a good deal of blundering over the International Medical Congress. The Congress of Hygiene was interesting, as these congresses always are, for they deal with so many practical everyday questions. The most remarkable, and at the same time a very discouraging, feature about the congress was the utter collapse of the Bacteriological Section. A joint meeting with the Third or Sanitary Engineering Section had been organised. The engineers appealed to the bacteriologists to indicate how towns should be supplied with water: should it be spring water, river water, water from the chalk, filtered water, or water sterilised by some chemical or electrical process? The result of the debate that ensued must have greatly increased the perplexities of the engineers, for there was no agreement among the bacteriologists on any one of the points raised. All these debates were described at length in our columns at the time and we also published briefer accounts of minor congresses, such as the international congresses on psychology, on sanitation in the colonies, on pharmaceutical specialities, &c.

The Universal Exhibition.

Then, as far as time, space, and the intervals between these congresses would allow, we gave descriptions and criticisms of the medical, surgical, and sanitary sections of the Universal Exhibition. This was a difficult task to undertake, for the exhibits were scattered in all directions and their number was legion. Perhaps one of the most remarkable features was the show made by new countries and by the smaller nationalities, such as Hungary and Belgium. Great Britain, on the other hand, was only represented by manufacturers of sanitary appliances, &c. There were no Government, State, or municipal exhibits to show what general progress in sanitation had been accomplished in the United Kingdom. The Governments of almost all the other nations had, on the contrary, sent reports, diagrams, and various models of institutions, bacteriological laboratories, &c., which indicated what had been accomplished in recent years for the preservation of public health and for the spread of the knowledge of hygiene. If the political action of the British Government has of late years been the subject of much hostile criticism on the continent, the really wonderful demonstration in which representatives of all nations participated and which was organised by the French medical men in honour of Lord LISTER was a proof that the civilised nations of the world are ever ready to acknowledge, and to pay homage to, what has been achieved in Great Britain for the advancement of science. It is a pity, therefore, that the authorities in this country did not profit by the Universal Exhibition to show more fully how in matters of sanitation we are still in the vanguard. Such an effort would have been fully appreciated. For throughout the proceedings, whether at the Exhibition or in the congresses, whenever an Englishman presented himself he was received with the greatest courtesy and was generously awarded whatever praise or applause was suited to his endeavours and work. Indeed, all such exhibitions and international congresses must tend to smooth rough corners and to build up international friendships and alliances, as well as to spread knowledge and to give birth to new ideas. Thus is the course of peace and progress advantageously served.

THE ORGANISATION OF THE PROFESSION.

Continuing this year the campaign started by the series of articles entitled "The Battle of the Clubs" and "Hospital Abuse" we have published further articles on the Organisation of the Profession, which were the result of investigations made by our Special Commissioner at Cork, Yarmouth, Norwich, and Cowes. It was at Cork that the movement against the clubs definitely began, and there the members of the profession have united with wonderful unanimity. At first they attempted to utilise what professional organisations already existed, but experience soon proved that to meet new conditions and to enforce a new policy it was necessary to create a special organisation. Thus the Medical Profession Association of Cork came into existence. So far back as 1892 the majority of the Cork practitioners had agreed on a wage-limit to be enforced for all contract work, and the following year they undertook to boycott those practitioners who failed to stand by the profession. It was not, however, till February, 1895, that the celebrated movement against the medical aid clubs began. Then nine medical officers resigned the positions which they held in connexion with 20 clubs. The clubs succeeded in importing four outside medical men and a long struggle commenced. But the Cork Medical Profession Association were able to raise a fund, which, however, was not needed for more than a year, as the position of the medical men greatly improved through the abolition of former abuses. Gradually the resistance has decreased, only 12 out of the 20 societies continued the struggle and only two out of the four imported medical men remained to help them. With impoverished exchequers and reduced membership these clubs still continue the struggle. The practitioners of Cork, however, have long since become quite independent of them and their members, for the position of the practitioners has in every respect been greatly improved through the successful action of their organisation.

At Great Yarmouth also the resident medical practitioners have given a good example of what can be done by united action. There they have fought the Medical Institute established by a federation of friendly societies. Constituting themselves into a branch of the Incorporated Medical Practitioners' Association, they first attempted to prevent the formation of female lodges of Foresters and the importation of practitioners by medical insurance companies. To secure union in the ranks of the profession the older practitioners were careful to befriend and to assist their juniors in every way and thus prevented the latter from falling into the hands of the organisations that were seeking to exploit and to sweat medical men. The profession was successful in rendering it impossible for speculative insurance companies to establish branches of their business in Yarmouth. Several clubs that have not joined the institute have accepted the terms offered to them by the Yarmouth practitioners. Altogether the latter are now in a much more favourable position and many of the abuses have been done away with. Contrary to the usual experience, it was not the practitioners who struck against the clubs but the latter organised a lock-out. The clubs called upon the practitioners to accept the conditions which the clubs had thought fit to impose or to resign their posts of medical officers to these institutions. The resignations followed in due course and thus the lock-out began and it has worked to the great moral and material advantage of the members of the profession in practice at Yarmouth.

In the neighbouring town of Norwich, however, no such favourable results have been attained. Meetings were held, excellent resolutions were adopted, but there has been no spirit of discipline and what was voted was never carried out. 25 years ago similar efforts were made and with as little success. What the medical practitioners collectively condemn they individually practise. They denounce the club and contract system and yet they nearly all work for clubs or contract with patients—that is to say, have penny clubs of their own. A good leader and a powerful organisation are required. At present neither is forthcoming. Much of what our Commissioner has seen and described is encouraging; but his experiences at Norwich were the

reverse of this. In one respect Norwich has set a good example; the members of the profession in that town have displayed a true spirit of solidarity towards their colleagues of the neighbouring town of Yarmouth. None of the Norwich consultants consented to meet the practitioners of Yarmouth who were working for the Friendly Societies Medical Institute in that town. They have been equally staunch in refusing to have anything to do with the medical officers who are the salaried servants of the Norwich Friendly Societies Medical Institute. When any member of this institute desires a second opinion he must visit a consultant alone and pay a guinea fee, and the fact that many members have done this shows that they can afford more than a penny per week for medical attendance.

At Cowes also there have been much weakness, hesitation, and backsliding displayed by the local practitioners. One local practitioner, however, has made a good fight against the gross abuse prevailing among the friendly societies. It was especially against the female lodges of Foresters that the contest arose and in the course of time a wage-limit was imposed. This wage-limit is too high and there is no really effective machinery to ensure that it shall be observed; but still, it is something to have established the principle and to have made the majority of the local practitioners acknowledge the necessity of some form of united action to secure such reforms. This wage-limit, however, does not apply to the Foresters Friendly Society, but only to the medical aid society which the Foresters have formed for the benefit of their wives and other members of their families. Both the Oddfellows and the Foresters retain in their ranks many prosperous members who can well afford to pay the usual medical fees. There is evidently urgent need for the formation of a medical union for the whole of the Isle of Wight.

This principle of forming medical unions was endorsed at Manchester, where in the month of May a conference on the Organisation of the Profession was held under the auspices of the Manchester Medical Guild, which is a medical union formed by some 200 medical men. 50 delegates attended and claimed to speak on behalf of about 4000 practitioners. This would be a very good beginning indeed if the practitioners in question were not merely sympathetic but were solidly organised. Unfortunately the conference spent the greater part of its time in describing well-known grievances instead of devising means of action. Then there was weakness displayed in the tendency to call upon others to do the work which the medical practitioners should themselves be the first to undertake. Parliament was to legislate in this direction and in that direction, and the General Medical Council was to enforce new ethical rules for the government of the profession. But reforms do not come this way, and authorities rarely do more than give official sanction to what has already, at least in part, been achieved by voluntary effort. The first step of all is organisation, legislation will follow in due course upon united action.

HONOURS TO MEDICAL MEN.

The closing year of the nineteenth century has been an average one in respect of the number of honours which have been bestowed upon members of the medical profession. At a time when Imperialism and all that is connoted in that word was, and is, so much in the air it was perhaps fitting that the list of honours for the new year, like the subsequent birthday honours, should embrace the names of men widely distributed over Her Majesty's dominions, and so we find it. Among the new Knights were Sir T. LAUDER BRUNTON, M.D. Edin., F.R.S., and Sir F. H. LOVELL, C.M.G., Surgeon-General of Trinidad, the former a physician of high standing and a man who has unobtrusively worked hard in the profession to which he belongs; the latter a member of the Executive and Legislative Council of Trinidad, who at one time held the appointments of chief medical officer, President of the General Board of Health, and member of the Legislative Council of Mauritius; and the Honourable Sir JOHN ALEXANDER COCKBURN, M.D. Lond. and Adel., Agent General in London for South Australia, formerly Premier of that colony, received knighthood in the Order of St. Michael and St. George. Mr. JOHN PRINGLE, M.B., C.M. Aberd., a member of the Privy Council and Legislative Council of the Island of Jamaica; Mr. PATRICK MANSON, M.D., LL D. Aberd., medical adviser to the Colonial Office; Mr. WORDSWORTH POOLE, M.B., B.C. Camb., late principal medical officer of the West African Frontier Force, now Legation surgeon at Peking; and Mr. ARCHIBALD DONALD MACKINNON, M.D. Aberd., principal transport officer for Uganda, were appointed Companions of the Order of St. Michael and St. George.

The disappointingly short list of birthday honours added four new knighthoods to the profession, namely, those of Sir HECTOR CAMERON, the President of the Faculty of Physicians and Surgeons of Glasgow and the representative of that body upon the General Medical Council; Sir J. W. MOORE, the President of the Royal College of Physicians of Ireland; Sir WILLIAM BISSET BERRY, Q C., Speaker of the House of Assembly of the Cape of Good Hope; and Sir DAVID PALMER ROSS, C.M.G., Surgeon-General of British Guiana. Lieutenant-Colonel AYLMER MARTIN CROFTS, I.M.S., residency surgeon at Gwalior and medical officer to the Maharajah, received a Companionship of the Most Eminent Order of the Indian Empire. Companionships of the Bath were bestowed upon Surgeon-General H. SKEY MUIR, Deputy Director-General of the Army Medical Service, and Lieutenant-Colonel B. B. CONNOLLY, late of the same service. Lieutenant-Colonel R. N. CAMPBELL, I.M.S., and Captain C. H. JAMES, I.M.S., received the Kaisar-i-Hind gold medal for Public Service in India. Major STEVENSON, I.M.S., Captain JOHN GRANT, I.M.S., and Miss CHARLOTTE ADAMS, L.R.C.P. Edin., Mrs. HENRY SMITH, and Miss SUSAN CAMPBELL, L.R.C.P. Edin., also received the silver medal of the same order.

Sir GEORGE HARE PHILIPSON, M.D. Cantab., M.D., D.C.L. Durham, President of the University of Durham College of Medicine and representative of that College on the General Medical Council, was created a Knight this year.

In 1899 the German EMPEROR conferred upon Surgeon-General J. JAMESON, C.B., the medal instituted in memory of the late Emperor WILLIAM for services in connexion with the Franco-German war. We are pleased to have to record that this year the KAISER has conferred upon Sir WILLIAM MAC CORMAC the "Kaiser Wilhelm" memorial medal in recognition of his services during the same war of 1870–71. Sir WILLIAM MAC CORMAC has also received from the President of the French Government the Cross of Commander of the Legion of Honour in recognition of similar services.

During the year Lord LISTER has been appointed Serjeant-Surgeon in Ordinary to Her Majesty, in the room of Sir JAMES PAGET, Bart., deceased, and Mr. FREDERICK TREVES has been appointed one of the Surgeons Extraordinary to Her Majesty.

We close our list of honours to British subjects with a name of which we and the whole of the profession feel proud in the highest degree—namely, that of Major WILLIAM BABTIE, C.M.G., V.C., of the Royal Army Medical Corps, who has received the decoration of the Victoria Cross for the following act of courage. At Colenso, on Dec. 15th, 1899, the wounded of the 14th and 66th Batteries Royal Field Artillery were lying in an advanced donga close in the rear of the guns without any medical officer to attend to them, and when a message

was sent back asking for assistance Major W. BABTIE rode up under a heavy rifle fire, his pony being hit three times. When he arrived at the donga, where the wounded were lying in sheltered corners, he attended to them all, going from place to place exposed to the heavy rifle fire which greeted anyone who showed himself. Later in the day Major BABTIE went out with Captain CONGREVE to bring in Lieutenant ROBERTS who was lying wounded on the veldt. This also was under a heavy fire.

It is somewhat invidious to select from the names of foreign medical men those who have received honours of distinction during the year, but we may perhaps mention the name of Dr. R. BLONDEL, who so ably acted as General Secretary to the International Congress of the Medical Press which was held in Paris during the time of the Exhibition and who was named a Chevalier of the Legion of Honour.

OBITUARY.

Again we have to present to our readers a summarised account of those members of the medical profession who have finished their labours in this life. As the members of the navy and the army serve in all parts of the empire to guard the interests of the body politic, so, too, the members of the medical profession serve in very varied fields to guard the interests of the human body. As sickness and wounds are universal, so, too, are those trained to do their utmost to prevent and treat the one or to heal the other found throughout the world. The first name on our list, first in reputation, in honours, and in date of occurrence, is the honoured one of Sir JAMES PAGET, who passed away full of years and honours on the night of Dec. 30th, 1899. His labours and example for good are known to all the world.

Naval Medical Service.

The senior service has suffered less by death among its medical members than the junior, but we have to chronicle the death of HENRY PEACOCK, F.R.C.S. Eng., M.R.C.P. Lond., of Bath, who served in the Royal Navy on board H.M.S. *Crocodile* from 1839 to 1840, and for 20 years afterwards as medical officer of the dockyard at Chatham. In 1862 he retired from the service and started in practice at Sudbrook, Gloucestershire. He was subsequently assistant physician to the Gloucester General Infirmary. Lieutenant-Colonel ARCHIBALD ADAMS entered the medical department of the Navy in 1872 and served with the Royal Marines through the Ashanti war of 1873–1874. In 1895 he entered the Indian Medical Service, and after being attached to the Erinpoora force received the appointment of residency surgeon to the Court of Marwar, where he resided for 18 years. After this he was made administrative officer in Rajputana and died while combating an epidemic of cholera. He became Lieutenant-Colonel in 1895. GEORGE HUTCHINSON MILNES, M.D. Cantab., M.R.C.S., entered the Royal Navy as surgeon in 1886, served at Suakim, and afterwards at the Royal Naval Hospital at Haslar.

Army and Indian Medical Services.

In the Army Medical Service we have to note the deaths of ALEXANDER GRANT, F.R.C.S. Edin. Mr. GRANT entered the Bengal Medical Service in 1840 and retired as surgeon-major in 1861. He served through the Chinese war of 1841–42 and also through the first Sikh war. In 1849 he was appointed surgeon to the Governor-General. He held the post of President of the Medical Faculty in the University of Calcutta and was also an honorary surgeon to the QUEEN. DAVID CULLEN, M.D. Edin., a deputy-surgeon-general of the Army Medical Department, served through the Crimea and the Mutiny. From 1875 to 1880 he was registrar to Netley Hospital. He held the Crimean and Mutiny medals, with clasps for Sebastopol and Lucknow. ROBERT COLLUM, M.D. Glasg., M.R.C.P. Lond., entered the Bombay Medical Service in 1837 and was attached to the staff of Sir CHARLES NAPIER during the conquest of Scinde. Between Bombay and Scinde he had to deal with an outbreak of cholera on board the ship from which 64 soldiers died in eight days. Whilst in Scinde he had medical charge of the troops returning from the first Afghan war and afterwards served as surgeon to their Highnesses the ex-Ameers of Scinde. After further service in Bengal and Bombay he retired from the service in 1857. During his residence in England he was physician accoucheur to the Paddington Maternity Charity and physician to the Western General Dispensary. CHARLES POPE WALKER, M.B. Durh., major in the Royal Army Medical Corps, fell a victim to dysentery at Ladysmith on Jan. 5th. He went out with the troops in November, 1899, and was present at the battles at Dundee and Elandslaagte. He entered the army in 1886 and first served in the North-West Provinces. ALEXANDER CHARLES ARCHIBALD ALEXANDER, M.R.C.S. Eng., was a major in the Royal Army Medical Corps and died on Jan. 23rd. He first saw service in Egypt with the Guards at Suakim in 1885, receiving the medal with clasp for Hasheen and Tamai together with the Khedive's star. He was permanent medical officer to the Royal Military Tournament, and was only prevented from accompanying the forces to South Africa owing to the effects of a sunstroke received at Gibraltar last year. THOMAS GUY, M.D. Heidelb., F.R.C.P. Lond., was born in 1819 and entered the army in 1842 as assistant surgeon. He became surgeon in 1853 and surgeon-major in 1862. He served through the Abyssinian war of 1867–1868, was mentioned in despatches, and was promoted to be Deputy-Inspector-General of Hospitals. In 1872 he retired with the honorary rank of Inspector-General. During the Franco-German war he acted as director of the English ambulance. WILLIAM MCNEILL WHISTLER, M.R.C.P. Lond., was educated at the University of Pennsylvania, and though not serving with the British army acted as assistant surgeon with the Confederate army in the American Civil War. At the conclusion of hostilities he came to London and after studying at St. George's Hospital was appointed physician to the London Throat Hospital. HENRY THOMPSON, M.R.C.S. Eng., L.R.C.P. Lond., practised for many years in the north of England and was for long connected with the Hull Infirmary, being successively house surgeon, assistant surgeon, and full surgeon to that institution. He was also for 20 years surgeon to the 1st Volunteer Battalion East Yorks regiment and was promoted on his retirement to the rank of surgeon-lieutenant-colonel. THOMAS ALFRED PERRY MARSH, L.R.C.P. Lond., M.R.C.S. Eng., died from enteric fever at Deelfontein on May 22nd. He was educated at Bristol and University College Hospital, and entered the Army Medical Service in about 1882. He served through the Burmese war of 1885–1887, and previously to his illness was principal medical officer at De Aar. At the time of his decease he was a major in the Royal Army Medical Corps. AYLMER ELLIS HAYES was at his death lieutenant-colonel in the Royal Army Medical Corps. He was educated at St. Mary's Hospital and became M.R.C.S. Eng. in 1871. He joined the Army Medical Staff, becoming surgeon in 1877, surgeon-major in 1889, and lieutenant-colonel in 1897. He served through the Afghan war of 1878–1880, for which he received the medal. Later he served in the Soudan, being twice mentioned in despatches and winning the D.S.O. After spending some time at Netley as registrar and at Aldershot in command of No. 2 Station Hospital he served at Hong-Kong, but in 1897 retired from the active list. On the outbreak of the present war he re-joined and was put in charge of the Connaught Hospital. JOHN STEWART STEVENSON, M.R.C.S. Eng., L.R.C.P. Lond., who died at Lucknow from heat apoplexy, entered the Indian Medical Service in 1896, and shortly after his arrival in India was sent to Bangalore on plague duty. He also

served as "special plague officer" in the Mauritius. He served with the Tirah field force during the operations on the North-west frontier in 1897–98 and received the medal and clasp. He was the only son of Surgeon-General W. F. STEVENSON, who recently returned from South Africa, where he had been acting as principal medical officer on the line of communications. CHARLES JAMES HISLOP WARDEN, Lieutenant-Colonel I.M.S., was for many years a prominent chemist and pharmacologist in India. He qualified as M.R.C.S. Eng. in 1872 and L.R.C.P. Lond. in 1873 and took the M.D. degree of Brussels in 1884. At the time of his death he was examiner of medical stores to the India Office. He joined the Bengal Medical Service in 1874. JOHN TRESSILIAN TOLL, M.R.C.S. Eng., L.R.C.P. Edin., practised for some time in Australia. When the first South Australian contingent started for the front he volunteered as medical officer and was appointed with the rank of surgeon-major. He accompanied the troops to Bloemfontein, where he was attached to a hospital and was stricken with enteric fever. Becoming convalescent he started for home but died on the voyage.

Ambassadorial and State Officials.

EDWARD DALZEL DICKSON, M.D. Malta, was physician to the British Embassy at Constantinople, in which city he lived for 60 years. He was the eldest son of a naval surgeon who served under NELSON in the Baltic campaign. EDWARD DICKSON was born in 1816 and was educated at the University of Malta. In 1837 he was appointed physician to the British Consulate at Erzeroum. He was appointed Embassy physician at Constantinople in 1856 and ten years later served as third commissioner at the International Conference held in that city to inquire into the best means of preventing the spread of cholera from Asia into Europe. HADLEY JACKSON, M.R.C.S. Eng., L.R.C.P. Lond., who died from fever in the Uganda Protectorate on Feb. 16th, was educated at University College Hospital and served in Northern Rhodesia. Later he took service under the Uganda Protectorate and was in medical charge of a punitive column when he met his death. EDWIN VAN MILLINGEN, M.D. Würtzburg, practised in Constantinople as an ophthalmic and aural surgeon. He was an Englishman, but received his medical education at Würtzburg and Vienna. He was professor of ophthalmology in the Imperial School of Medicine at Constantinople. His Excellency ROBERT HALLIDAY GUNNING, M.D., LL.D. Edin., was educated at Edinburgh, but spent most of his life in Brazil where he was a great favourite of the late Emperor. The country has also to regret in the person of Mr. ARTHUR JENNER, murdered in Somaliland, a public servant connected by birth with the medical profession. Mr. ARTHUR JENNER was one of the sons of Sir WILLIAM JENNER.

University and College Professors.

The universities have this year suffered greatly by the loss of prominent professors. The University of London led the way in having to mourn the death of Sir JAMES PAGET, who, though not a professor, was Vice-Chancellor from 1884 to 1895. Next in order the University of Edinburgh lost by death the valuable services of her Professor of Physic and of Clinical Medicine, Sir THOMAS GRAINGER STEWART, in his sixty-third year. He succeeded Sir R. CHRISTISON as physician-in-ordinary to HER MAJESTY the QUEEN in Scotland, was knighted in 1894, and was President of the British Medical Association in 1898. An admirable clinical teacher, he worthily sustained the best traditions of Scottish medicine. But a few weeks after the death of the Professor of Medicine the University of Edinburgh had to sustain another blow by the death of Sir ANDREW DOUGLAS MACLAGAN, the Professor of Jurisprudence and Public Health. He came of a medical stock, his father, DAVID MACLAGAN, having been surgeon-in-ordinary to the QUEEN in Scotland, physician to the forces, and President of both the Royal Colleges of Edinburgh—a double honour which his son DOUGLAS likewise filled. Sir DOUGLAS MACLAGAN, who was knighted in 1886, was not only an eminent physician, surgeon, and medical jurist, but also a good writer and musician. He appeared for the defence of MADELEINE SMITH in her trial in which a verdict of "Not proven" was returned. Sir WILLIAM PRIESTLEY, Professor of Midwifery and of Diseases of Women and Children at King's College, London, died, after a long illness, on April 12th. He attended sundry members of the Royal family at the time of their confinements and was knighted in 1893. In 1896 he was elected without a contest as Member of Parliament for the united Universities of Edinburgh and St. Andrews, and although he had but a brief career in the House, yet he was able to exercise an important influence in relation to measures bearing on public health. PIERCE ADOLPHUS SIMPSON, M.D. St. And., was Emeritus Regius Professor of Medicine in the University of Glasgow. He had also been lecturer on medical jurisprudence at Anderson's College and physician to the Glasgow Royal Infirmary. JOHN ANDERSON, M.D., LL.D. Edin., F.R.S., went to India in 1864, when he was appointed professor of Comparative Anatomy in the Medical College, Calcutta. Between 1868 and 1887, when he retired, he accompanied various Government expeditions as scientific adviser. By the death of Sir HENRY ACLAND, the University of Oxford lost a very familiar and well-beloved personality. Full of years and honours the former Regius Professor will live long in the recollection of the University which he loved so well. ALFRED WILLIAM HUGHES, M.B., C.M. Edin., F.R.C.S. Eng. and Edin., Professor of Anatomy at Cardiff, and afterwards at King's College, London, went out to the war in charge of the Welsh Hospital. He contracted typhoid fever and only reached home to die. DENNIS EMBLETON, M.D. Durh. and Pisa, F.R.C.S. Eng., F.R.C.P. Lond., who died in his ninety-first year, was the first professor of medicine in the University of Durham, and from 1858 to 1872 represented that university on the General Medical Council.

Hospital Physicians and Surgeons.

ROBERT GLASGOW PATTESON was educated at Dundalk Grammar School and at Trinity College, Dublin, where he graduated as M.B. in 1885. In 1886 he was elected surgical travelling prizeman of Trinity College and pursued his studies at London, Berlin, and Vienna. He was afterwards assistant surgeon at St. Vincent's Hospital and in 1895 was elected surgeon to the Meath Hospital. He was but 38 years of age at the time of his death. GEORGE VINER ELLIS, F.R.C.S. Eng., was born in 1812. He received his early education at the Cathedral Grammar School of Gloucester and afterwards at University College, London, where he was appointed demonstrator of anatomy to RICHARD QUAIN. He studied in Paris and Berlin, and in 1850 was appointed Professor of Anatomy at University College in succession to RICHARD QUAIN, which post he held until 1877, when he was made Emeritus Professor. He was the author of the well-known "Demonstrations of Anatomy." JOHN NEVILLE COLLEY DAVIES-COLLEY, M.A., M.B., M.C. Cantab., F.R.C.S. Eng., was born at Chester in 1843 and was educated privately and at Trinity College, Cambridge. In 1864 he entered Guy's Hospital as a medical student, graduated as M.B. in 1868, and became a Fellow of the Royal College of Surgeons of England in 1870, being also appointed demonstrator of anatomy in the Guy's Hospital Medical School. In 1872 he was elected assistant surgeon and during the course of his career at the hospital was demonstrator of surgery, lecturer on surgery, lecturer on anatomy and full surgeon. He was also for a long time surgeon to

the Seamen's Hospital, Greenwich. On becoming aware, about Christmas, 1899, that he had malignant disease of the liver he resigned his post at the hospital and was presented by the students with an illuminated address. He was a noted consultant, a good surgeon, and an admirable teacher. GEORGE EDWARD WILLIAMSON, M.A. Durh., M.B. Lond., F.R.C.S. Eng., was one of the many medical men whose deaths Newcastle-on-Tyne has recently had to deplore. He was born in 1842 and was educated at the London Hospital and in Paris. In 1878 he was admitted F.R.C.S. Eng., and practised as an ophthalmic surgeon, being for some years ophthalmic surgeon to the Royal Infirmary, Newcastle. For a few months before his death, however, he was engaged in teaching operative surgery as a colleague of Professor F. PAGE. JULIUS ALTHAUS, M.D. Berlin, M.R.C.P. Lond., was the son of a German Lutheran Minister and was born at Detmold. He studied at Bonn, Heidelberg, Berlin, Vienna, Paris, Prague, and London, in which last town he finally settled. In 1866 he founded the Hospital for Epilepsy and Paralysis in Regent's Park to which institution he acted as physician for 28 years. JAMES GROSVENOR MACKINLAY, F.R.C.S. Edin., was born in 1844 and was educated at Epsom College and Charing-cross Hospital. He devoted himself to ophthalmic surgery and at the time of his death was surgeon to the Royal Eye Hospital and to the Royal Free Hospital. He was an original Fellow of the Ophthalmological Society. JAMES FENTON STAMPER was for many years in practice at Pembroke Dock. He qualified as M.R.C.S. Eng. in 1861 and took the degree of M.D. at the University of St. Andrews in 1862. He was Admiralty surgeon and agent, a J.P. for the borough of Pembroke, consulting physician to the Haverfordwest and Pembrokeshire Infirmary, and surgeon to the Pembroke Dispensary. BERNARD E. BRODHURST, F.R.C.S. Eng., was well known as an orthopædic surgeon and was for many years on the staff of the Royal Orthopædic Hospital. THOMAS JONES, M.B., B.S. Lond., F.R.C.S. Eng., who died at Springfontein, was one of the many victims, direct or indirect, of the South African war. He had left England on April 14th in charge of the Welsh Hospital and died on June 18th. Born in Carmarthenshire, he was educated at Derlwyn College and afterwards at the Swansea Normal School. He then studied at the Northern Hospital, Liverpool, and at Guy's Hospital. He graduated as M.B. and B.S. at the University of London and became F.R.C.S. Eng. in 1875. Previously to this, however, he had served the Manchester Royal Infirmary as house surgeon, and after holding various posts became full surgeon in 1880. He was also professor of surgery at the Owens College. He was an admirable and most popular teacher and his death is a great loss to the profession. HENRY BURFORD NORMAN, F.R.C.S. Eng., was educated at University College, London, where among his contemporaries were SPENCER WELLS and JOHN ERICHSEN. He started in practice as an ophthalmic surgeon and filled the office of surgeon to the North London Eye Hospital. Failing health compelled him to leave London and he retired to Portsmouth, where he was soon elected a member of the surgical staff of the Royal Portsmouth Hospital. He was one of the founders of the Portsmouth and South Hants Eye and Ear Infirmary and was consulting surgeon to it. DANIEL JOHN LEECH, M.D., F.R.C.P. Lond., was Professor of Materia Medica and Therapeutics in the Owens College, consulting physician to the Manchester Royal Infirmary, and representative of the Victoria University upon the General Medical Council. He was in addition secretary of the Manchester and Salford Sanitary Association, a body which through his instrumentality has been of the greatest service to Manchester as regards the prevention of the adulteration of food and the prevention of black smoke. HENRY EWBANK, M.R.C.S. Eng., L.R.C.P. Edin., was for many years a prominent practitioner in Cheltenham. From 1881 to 1883 he was senior surgeon to the General Hospital, Cheltenham. For some time, too, he acted as honorary surgeon to the Home for Sick Children. WILLIAM MARCET, M.D. Edin., F.R.C.P. Lond., F.R.S., who died at Luxor, was well known as a physician interested in physiological chemistry. His life's work was an inquiry into respiratory phenomena and his results were given to the world in the Croonian lectures delivered by him in 1895. WILLIAM ADAMS, F.R.C.S. Eng., the well-known orthopædic surgeon, was surgeon to the Great Northern Central Hospital. He was the first to practise subcutaneous osteotomy of the neck of the femur for ankylosis of the hip-joint. THOMAS SCATTERGOOD, M.R.C.S. Eng., L.S.A., was for many years connected with the Leeds Medical School. SIR WILLIAM STOKES, M.D., M.Ch. Dub., F.R.C.S. Irel., came of a family eminent in many branches of learning. He was Professor of Surgery to the Royal College of Surgeons in Ireland, surgeon-in-ordinary to HER MAJESTY the QUEEN in Ireland, and had been Honorary President of the International Medical Congresses of Berlin, Rome, and Moscow. In 1886 he received the honour of knighthood and this year he sailed for South Africa as one of the consulting surgeons to the forces. His death occurred at Pietermaritzburg from pneumonia. He had been lecturer on surgery at the Carmichael School and was surgeon to the Meath Hospital. THOMAS MOORE, F.R.C.S. Eng., of Blackheath, was at the time of his death senior surgeon to the Miller Hospital at Greenwich and consulting surgeon to the Brighton Children's Hospital. ROBERT STRAFFORD SMITH, M.D. R.U.I., who died at an early age from septicæmia, was one of the most promising of the younger generation of medical men in Belfast. He was physician to the Royal Victoria Hospital in Belfast and Lord Chancellor's Visitor in Lunacy. LEWIS ALBERT SAYRE, M.D., LL.D., of New York, was the well-known orthopædic surgeon and Emeritus Professor of Orthopædic Surgery of the New York University. WILLIAM CHAPMAN GRIGG, M.D. Edin., M.R.C.P. Lond., who died in South Africa, was for some years a prominent gynæcologist in London. He was obstetric physician to out-patients at Westminster Hospital and physician to Queen Charlotte's Lying-in Hospital. ROBERT CORY, M.D. Cantab., F.R.C.P. Lond., had held the posts of assistant obstetric physician to St. Thomas's Hospital, but he was chiefly known for his admirable work in vaccination and his self-sacrificing heroism in vaccinating himself from an undoubtedly syphilitic child. On three occasions he escaped infection but on the fourth he contracted a severe attack of syphilis. WILLIAM ANDERSON, F.R.C.S. Eng., who died very suddenly on Oct. 27th, was surgeon to St. Thomas's Hospital. He was well known as an authority upon Japanese art and was for some time director of the Japanese Naval Medical College at Tokio. He was also Professor of Anatomy to the Royal Academy of Arts. Genial, kindly, and a thorough artist, his place will be hard to fill.

Civilian Practitioners.

WILLIAM NEALOR THURSFIELD, M.D. Edin., D.P.H. Cantab., was born in Shropshire and educated at Marlborough and at King's College. He subsequently studied at the University of Edinburgh and for one year after his graduation he held a commission at Netley, which he resigned owing to the illness of his father. He then practised in New Zealand, but returning to England took up the subject of public health and was appointed medical officer of health of Wellington, Salop, in 1870. In 1873 he was appointed medical officer to a combination of urban and rural districts, and in 1897 he gave up these district appointments on becoming medical officer of health for the county. JAMES HOWISON, L.R.C.P., L.R.C.S., L.M. Edin., who practised for many years in Darlington, received his medical education at Edinburgh. He died in London at the age of 77 years, and his

death was caused by his blindness, owing to which he accidentally stepped off the platform at West Hampstead station and received fatal injuries from a train. JOHN GORHAM, M.R.C.S. Eng., L.S.A., was for many years a well-known practitioner in Tonbridge and wrote much upon light and crystallography. FREDERICK WILLIAMS LEWIS was educated at the Middlesex Hospital and practised in Llandovery, being surgeon to the Great Western and the North-Western Railway Companies. GEORGE CHEESMAN, L.R.C.P. Edin., M.R.C.S. Eng., was for a long time medical officer to the Southampton Incorporation, and died at his residence, Bitterne Park, at an advanced age. JOSEPH EDWARD KENNY, L.R.C.P., L.R.C.S. Edin., who received his medical education at Dublin and Edinburgh, took an active part some two years after qualifying in endeavouring to stamp out an epidemic of small-pox which was raging in Dublin. He was a prominent Irish Nationalist, and in 1881 was arrested as a "suspect." He was a firm supporter of Mr. PARNELL and stuck to him even after the split which arose in Committee Room 15. Although so active a politician he took the greatest interest in charitable work in the city of Dublin, and was in addition coroner for the city, discharging the duties of the office with great ability and success. The cause of his death was septicæmia. Sir WILLIAM MILLER, M.B. T.C.D., was one of the best known practitioners in Ulster. In 1875 he was chosen Mayor of Derry, was re-elected in 1876 when he was knighted, and was again re-elected in the following year. He was also Mayor in 1888 and in 1889 and at the time of his death had only just been appointed high sheriff of the county. Besides his public appointments, which were very numerous, he had a large private practice. HENRY HANNOTTE VERNON, M.D., F.R.S. Edin., had been medical officer of health of Southport since 1873 and since 1888 had devoted the whole of his time to that office. He received his medical education in Edinburgh and for a time practised in London, but had resided in Southport since 1868. DANIEL AINLEY, L.R.C.P. Edin., M.R.C.S. Eng., was for many years medical officer of health of Halifax. He was educated at St. Bartholomew's Hospital and commenced practice in Halifax in 1868 and was appointed medical officer of health of the borough in 1872. In 1892 and 1893 his department was sorely taxed by an epidemic of small-pox, over 500 persons being removed to hospital. JOHN WIBLIN, F.R.C.S. Eng., who died at the advanced age of 87 years, practised in Southampton, where he was sanitary surveyor to the Board of Trade and medical superintendent of quarantine to the Union and Royal Mail lines of steamers. GEORGE BIRD, M.D. St. And., who practised in Welbeck-street for many years, was born in 1817 and was educated at University College. He was well read and had travelled much and had had many patients from the literary and artistic worlds, such as LEIGH HUNT, DICKENS, LYTTON, THOMAS WOOLNER, and Sir RICHARD and Lady BURTON. BENJAMIN HOWARD of New York was a Member of the Royal College of Surgeons of England and a Fellow of the Royal College of Surgeons of Edinburgh. He was well known as the inventor of Howard's system of artificial respiration which he first demonstrated at King's College Hospital on July 7th, 1877. Another subject in which he took a deep interest was the provision of horse ambulances for large towns. DAVID YOUNG, M.D. Aberd., was for many years a well-known practitioner in Florence and in Rome. He commenced professional life by holding the professorship of botany at Grant Medical College, Bombay. JOHN TILSLEY, M.R.C.S. Eng., L.R.C.P. Lond., was a medical missionary in China. On the outbreak of the trouble there he started for home but died from dysentery on the day of his arrival in England. GEORGE SAMUEL GREGORY, M.R.C.S. Eng., L.S.A., died in his eighty-fifth year, having qualified in 1835. For 35 years he practised in Stroud, being certifying surgeon under the Factories Acts. He was an intimate friend of WILKIE COLLINS. ERNEST ARTHUR TAYLOR STEELE, M.R.C.S. Eng., L.R.C.P. Lond., of Southend, who died at the early age of 34 years, was for some time in practice at Plaistow, Essex, where chiefly owing to his exertions St. Mary's Children's Hospital has now reached its present degree of success. JOHN ORTON, M.D. T.C.D., was a well-known practitioner at Beeston and the son of a surgeon who was the first English medical man to practise successfully primary amputation at the hip-joint. WILLIAM MARSHALL, M.D. St. And., practised for many years in Dumfries. He took a great interest in the Dumfries and Galloway Royal Infirmary and served on its staff for a lengthened period. ALEXANDER STEVENSON, M.B., C.M. Glasg., began life as a lawyer, but afterwards took up medicine and practised in South Shields. SAMUEL HENRY SWAYNE, M.R.C.S. Eng., L.S.A., was a member of a well-known medical family in the west of England and practised in Clifton. RICHARD HAMILTON COWAN, M.R.C.S. Eng., L.S.A., was a prominent practitioner in Wigan and a member of the staff of the Royal Albert Edward Infirmary. RAYMOND FERRERS PALMER, M.R.C.S. Eng., practised for a few years in Tamworth, but afterwards entered the Dominican Order, devoting the rest of his life to theological and historical research. JOHN HAWTHORNE, M.D. R.U.I., of Banbridge, co. Down; JOHN QUILLER COUCH, M.R.C.S. Eng., L.S.A., a member of an old Cornish family; and GEORGE CORDWENT, M.D. St. And., F.R.C.S. Eng., who have all passed away during the year, were three well-known personalities in their respective districts. RICHARD BENJAMIN ANDERSON, F.R.C.S. Eng., whose troubled life came suddenly to an end from morbus cordis, formerly practised in Tobago, where he was the victim of that gross miscarriage of justice the details of which have been fully set forth in our pages.

Amongst other members of the profession who passed away during the year were THOMAS GREAVES WALKER of Bristol, M.R.C.S. Eng., L.S.A., in his thirty-ninth year; THOMAS JONES DYKE, F.R.C.S. Eng., for 36 years medical officer of health to the town of Merthyr Tydvil, who died at the age of 84 years; FREDERICK EDWARD PEARSE, M.D. St. And., medical officer and public vaccinator for the first district of the Frome Union; ROBERT GOLDSWORTHY TUCKER, L.R.C.P. Edin., M.R.C.S. Eng., a well-known practitioner of Swanley in Kent; SAMUEL HYDE, M.D. St. And., one of the best-known practitioners in Buxton, an original member of the British Balneological Society and for some time editor of its Journal; JOHN WILLIAM YOUNG HOWISON LAVIES, L.F.P.S. Glasg., who died from pneumonia at the early age of 46 years; JOHN CADWALADR WILLIAMS, M.B., C.M. Edin., who also died from pneumonia; ALLAN MCLEAN, M.D., C.M. Edin., a leading practitioner in Dorsetshire and a keen volunteer who had been commanding officer since 1885 of the 1st Dorset Volunteer Artillery; JOSEPH CAVE SPICER JENNINGS, F.R.C.S. Eng., of Malmesbury, a well-known antiquarian; JOHN UNDERWOOD, M.D. Edin., of Hastings, who died at the age of 84 years; WALTER CLEGG, M.R.C.S. Eng., L.S.A., who had served in the Crimea and was coroner of the Boston District of Lincolnshire for 40 years; ROBERT WILLS SOPER, M.R.C.S. Eng., of Dartmouth, who had held, amongst other appointments, that of Admiralty surgeon and agent and who was a justice of the peace for Dartmouth; FRANCIS JOSEPH MATHEWS, L.R.C.P. Irel., who died from tetanus after a bicycle accident and who had been for many years medical officer to the Stradone Dispensary District of Cavan and medical attendant to the Royal Irish Constabulary; THOMAS FITZ-PATRICK, M.D. Dub., M.R.C.P. Lond., who was a distinguished graduate of Dublin University as well as of Cambridge and a talented physician and remarkable linguist as well as a good scholar; W. RADFORD, M.D. T.C.D., who died at the

advanced age of 89 years and who was a well-known practitioner in the West of England and justly respected for his charitable work in connexion with lace workers, whom, when they complained of failing sight, he used to see personally, to test their refraction, and to supply them with spectacles free of charge; and CLAUDE CLARKE CLAREMONT, who qualified as M.R.C.S. Eng. in 1855 and served for many years as public vaccinator to the parish of St. Pancras. To RICHARD NEALE, M.D. Lond., the medical profession owes an incalculable debt for his arduous labours in the issue of the "Medical Digest." JOSEPH MORTIMER GRANVILLE, M.D. St. And., was formerly editor of the *Globe*, and for many years a member of the staff of THE LANCET. ROGER EDWARDS, M.D. Durh., was a prominent practitioner in North Wales and several times Mayor of Llanfyllin. We must also mention the names of THOMAS FREDERICK HALE, M.R.C.S. Eng., L.S.A., of Chesterfield; ALEXANDER DEAS DAVIDSON, M.D. Cantab., M.R.C.S Eng., ophthalmic surgeon to the Swansea Eye Hospital; and COURTENAY CHARLES PARSONS, M.R.C.S. Eng., who went out to the war as a civil surgeon and died from enteric fever.

Deaths of Medical Men serving in the South African War.

The following is a list, complete as far as possible, of those medical men who have been killed or who have died from disease during the present year while serving in South Africa. Some of the names will be seen to be included under other headings in previous paragraphs. Lieutenant Hugh Bernard Onraet, R.A.M.C., was killed on Feb. 27th in the attack on Pieter's Hill; Captain R. H. E. G. HOLT, R.A.M.C., died from wounds received during Sir R. BULLER'S operations at Modder river on Feb. 21st; Lieutenant G. W. G. JONES, R.A.M.C., died from enteric fever on Feb. 20th at Ladysmith; Major CHARLES POPE WALKER, R.A.M.C., died at Ladysmith from dysentery on Jan. 5th; Captain G. S. WALKER, R.A.M.C., died from enteric fever at Ladysmith on Feb. 23rd; Major JAMES MINNIECE, R.A.M.C., died from enteric fever at Pietermaritzburg on March 17th; Lieutenant HALL, Volunteer Medical Corps, died at Mooi river on March 20th; Lieutenant G. H. IRVINE, R.A.M.C., attached to the Royal Horse Artillery, was killed at Sanna's Post; Assistant-Surgeon JACKSON, 21st Battery F.A., died from typhus fever and dysentery at Pretoria (*circ.* end of March); Civil Surgeon WHICHER died from enteric fever at Mooi river on April 27th; Captain H. ESMONDE DOWSE, R.A.M.C., died at Bloemfontein on May 5th from enteric fever; Dr. T. W. ILLINGWORTH, I.Y., died at Boshof from accidentally taking an overdose of morphia while suffering from fever; Captain R. FAWSSETT, R.A.M.C., attached to the 2nd Life Guards, died from dysentery at Bloemfontein on May 7th; Lieutenant E. L. MUNN, R.A.M.C., died from enteric fever at Boshof on May 23rd; Major T. A. P. MARSH, R.A.M.C., died from enteric fever at Deelfontein on May 22nd; Mr. F. R. EAMES, a dresser attached to the Welsh Hospital, died from dysentery at Bloemfontein on May 27th; Civil Surgeon ROBERT IRVINE, at Ladysmith, died from enteric fever on May 26th; Civil Surgeon H. BRYANT died from enteric fever at Bloemfontein on June 7th; Civil Surgeon R. T. FITZHUGH died from enteric fever at Deelfontein on June 15th; Civil Surgeon E. SMITH died from enteric fever at the base hospital on June 16th; Civil Surgeon H. D. DAVIS died at Springfontein on June 15th; Mr. THOMAS JONES, F.R.C.S. Eng., chief of the Welsh Military Hospital died *circ.* middle of June; Surgeon-Lieutenant-Colonel JAMES STEVENSON died at Cape Town on June 19th; Surgeon-Lieutenant-Colonel JAMES CREAGH, 9th Battalion King's Royal Rifle Corps (North Cork Militia), died from enteric fever on July 6th, between Viljoen's Drift and Kroonstad; Surgeon-Lieutenant-Colonel WILLIAM WELLINGTON LAKE, M.M.C.S., Volunteer Company Royal Army Medical Corps, died at Bloemfontein of Bright's disease on July 13th; Major GEORGE HILLIARD, C.M.G., R.A.M.C., died at the General Hospital, Newcastle, South Africa, on Sept. 7th, from a gunshot wound in the abdomen; Civil Surgeon A. E. ELLIOTT died at Middelburg on Dec. 1st, and Civil Surgeon C. C. PARSONS at Harrismith on Dec. 2nd, both from enteric fever; and Civil Surgeon ENGLEBACH was killed in action at Nooitgedacht on Dec. 13th.

This is the tale of losses in our profession for the closing year of the century. The list is a long one and serves once more to emphasise the universality of the services of medical men. In all climes and at all ages they end their life's work. Ours is the only profession which sets out to fight with an enemy which every member of us well knows must win in the end, and yet although the words of Seneca, "Quotidie morimur: quotidie demitur enim aliqua pars vitae," are still true, yet no less true is the saying of St. Augustine that death is "Instrumentum per quod transiretur ad vitam."

Annotations.

"Ne quid nimis."

RETREATS FOR INEBRIATES.

ONE of the last official acts of the late Home Secretary was the promulgation of rules for retreats licensed under the Inebriates Acts, 1879 to 1899, the text of these rules appearing in the *Gazette* of Dec. 11th. They are drawn up in accordance with the provisions of the Act of 1898, which, although dealing in the main with criminal inebriates and inebriate reformatories, contains several clauses having reference to the less public institutions, amending the Habitual Drunkards Act, 1879, in certain particulars. The general outcome of this amending legislation is to place inebriate retreats on a more stable footing and to put them in some respects under the jurisdiction of the Home Office whose inspector will visit and report upon the manner of their working. This is all to the good and it is a step in advance in the legislative control of the habitual drunkard, who requires as much protection from himself as the community requires from those who are mentally deranged. We say that it is one step, for although the Act of 1898 does not go all the way in the desired direction by enforcing compulsory isolation upon every victim of the drink habit, but only on those who are convicted of crimes (including the "crime of drunkenness"), it does provide for the detention for a certain space of any inebriate who voluntarily submits to treatment; and to all intents and purposes the provisions for such safe and kindly helping of those persons are similar to those which have long been in operation in regard to the insane. As we read the regulations we find but little variation from the rules laid down by the Lunacy Commission for the control of licensed houses, and we are of opinion that in framing these rules the Home Secretary was to some extent guided by the regulations of that body. It may be of interest to review briefly the chief of these rules. The Act of 1898 transfers the licensing authority to the borough or county council, but before application is made to such local authority "by any person or persons desirous of obtaining a licence to conduct a retreat under the Inebriates Acts" plans of the proposed building must be submitted to the Secretary of State for the Home Department for his approval. We observe that it is especially provided that dormitories should show 600 cubic feet of air space per head and separate bedrooms at least 720 cubic feet, and that separate rooms should be set aside for cases of illness. Another provision is that the resident licensee of a retreat

shall, wherever possible, be a registered medical man. We heartily approve of this regulation. The inebriate requires often the most careful medical supervision, and, although it does not seem to be explicitly so stated, the general tenour of the rules is such as to imply that where the licensee is not a member of the medical profession there must be a qualified medical attendant who, we think, should reside on the premises. The licensee is required to keep registers and case-books in which entries as to the history and progress of the case and its treatment are to be made, it being, further, his duty to ascertain and to record particulars of the patients after they have been "licensed or discharged." We imagine that this information, which is to be appended to the notes in the case-book, will in many cases be very scanty, and that the record "not heard of" will largely predominate. There is also to be kept a "licensee's journal" in which are to be recorded all matters of importance occurring in the retreat—matters of discipline affecting the servants and patients, and especially facts as to the obtaining of liquor by patients and the measures adopted to prevent recurrence of such infraction of rules. This journal, too, is to contain full details of every circumstance under which any physical restraint or coercion is employed; but we fail to observe any mention of the kind of restraint which may legitimately be adopted. Perhaps the requirement of a full record may suffice to keep such treatment within the narrowest limits, but we would fain have seen, in the interests of the licensee as well as of the patient, some guidance laid down as to the means whereby this exceptional treatment is to be enforced. A "visitors' book" is also to be kept in which the inspector has to enter his observations, of which a copy is to be transmitted to the Secretary of State by the licensee. There are regulations respecting notices of the death and discharge or temporary absence of the patient, to be sent in the one case to the local authority and to the Home Secretary, and in the other to the inspector whose duties are of a highly responsible kind. He can visit the retreat at any time and all parts of it must be open to him, whilst every patient must be produced to him. Whenever required by the inspector "the licensee and the medical attendant respectively shall ..... furnish him with a special report upon the mental and bodily condition and conduct with reference to abstinence from intoxicating liquor, or otherwise, of any patient on the register of a retreat." The clause (No. 8) goes on to say that the inspector's annual report "shall be a detailed and independent criticism of the working of each retreat during the year, and if the licensee neglects to provide facilities for employment or allows the establishment to fall below a proper standard of discipline and efficiency, the inspector shall report to this effect to the Secretary of State, who at his discretion will consider the advisability of communicating with the licensing authority." We have quoted these passages in full because they seem to us to be the keystone for the whole of this amended regulation for inebriate retreats. This thorough and independent inspection—a task demanding considerable knowledge and judgment—will, if it is, as it doubtless will be, thoroughly carried out, go far to establish confidence in these desirable institutions. All other regulations are subsidiary although necessary, and we need not dwell upon them here. The essential factor in this, the latest, legislative enactment for the care and control of the habitual drunkard is plainly based on the close affinity between those who give way to intemperance and so are unable to control themselves and those who from mental derangement cannot look after themselves. The border line between the inebriate and the insane is a very narrow one and many there be who pass over it. But the reclamation of the drunkard has for its aim the cure of a vicious tendency which if persisted in renders him more fitted for the asylum than for the retreat. The "retreat," however, to be effective must be managed as regards personal liberty on much the same lines as an asylum, whilst it recognises the curability of the dipsomaniac and offers him a means of escape from the fate of the hopeless dement.

CHARITABLE BEQUESTS AND DONATIONS IN 1900.

THE *Charity Record and Hospital Times* has carefully added up all the charitable bequests recorded, issue by issue, in its columns and finds that the total reached during 1900 was £2,016,600, as compared with £1,390,136 in 1899, and £1,303,720 in 1898. "At first sight," says our contemporary, "it would appear that with so large an increase in legacies charitable institutions must be in a prosperous state, but in a number of cases the money is left subject to life interests, and in some cases, we are sorry to say, experience has shown that the testators' ideas of their wealth were exaggerated. For instance, in the case of Professor D. E. Hughes, who last year left £400,000 to London hospitals, the money will not come to the institutions until 20 years after the death of Mrs. Hughes; and, again, Mr. H. Chester has left about £60,000 in trust to the Haberdashers' Company to be applied to a new hospital at Putney, if it ever be erected; failing such object, after 20 years the income will go to Guy's. Perhaps the most curious bequest is that of the late Mr. Alfred Fennings, who carried on a large business as a patent medicine manufacturer and who directed that after the death of his sister the profits of the business should be paid to the National Refuges for Homeless and Destitute Children." The following is an interesting *résumé* of the largest bequests of the year: "Mr. W. Ford (Liverpool), £10,500; Mr. W. W. Pollock (Glasgow), £40,000; Mr. H. Vaughan (London), £100,000; Mr. M. Gledhill (Manchester), over £70,000; Rev. W. M. Sutton (Brighton), £14,000; Professor Hughes, £400,000; Mr. S. Redhead (Cheltenham), about £13,000; Mr. S. R. Runz (London), between £80,000 and £90,000; Mr. R. Brooke (Scarborough), £13,000; Mr. T. H. Ismay (Liverpool), £10,000; Mr. J. Howgate (Ealing), £8250; Mrs. Leigh (Halifax), £36,000; Mr. G. W. Charters (Belfast), £10,000; Miss Cooper (Colchester), £8000 and land for almshouses; Mr. D. Tinslie (Edinburgh), over £200,000; Mrs. Dowling (Bromley), £10,000; Miss E. F. Dalton (Leicester), £40,000; Mr. J. Hutton (Leeds), £9000; Mr. Jacob Feis (London), £14,000; Miss E. G. Price (Canterbury), £10,000; Mr. R. B. West (Exeter), £50,000; Mr. A. Goerz (London), £20,000; Lord Bute, £20,000; Mr. R. Smith (London), £30,000; Mr. J. Downing (London), £15 000; Mr. R. Arthington (Leeds), £20,000; Mr. R. K. Whitehead (Manchester), about £16,000; Mr. W. Matthews, £19,000; Sir H. P. T. Barron (Waterford), £30,000; and Mr. J. F. France, £25,000." Dealing with large donations in 1900 the *Charity Record and Hospital Times* points out that though the year just running out witnessed no such gift as that of Sir J. B. Maple to the University College Hospital, there are several instances of big donations. "At the beginning of the year Mr. Thomas Aiken gave £40,000 in aid of the funds of the Edinburgh Royal Infirmary, and Mr. George Herring gave £10,000 to the Hospital Sunday Fund of London. Mrs. Ismay, carrying out the wish of her late husband, gave £10,000 to the Liverpool Seamen's Pension Fund, and a further sum of £10,000 was distributed by the trustees of the late Mr. B. Piercy amongst various charities. Mr. Hartley of Liverpool gave £5000 to the Colne Cottage Hospital and Mr. Astor gave £10,000 to the Maidenhead Cottage Hospital in honour of the coming of age of his son. It was announced at a quarterly court of the London Hospital that Mr. E. L. Raphael had given £10,000 for the endowment of Jewish wards at that institution, and that an anonymous donor had placed

£22,000 in the hands of the governors for the erection of an isolation block. Mr. J. Corbett gave £10,000 to endow the Corbett Hospital at Stourbridge, and within the past few days Lord Mount Stephen has intimated his intention of clearing off the debt on the Aberdeen Infirmary amounting to £25,000." Our contemporary remarks that the London Hospital is the only metropolitan hospital which has had the fortune to secure a big donation, while it will be seen that provincial charities benefit to a much more marked extent in large legacies than do London institutions.

THE BRIGHT SIDE OF MUD.

THE unhappy Londoner who at this season of the year walks streets that run with diluted dirt, or even if he drives gets splashed with the spatterings of wheels coming from the opposite direction, is not wont to perceive any benefit in the prevalent mud of his beloved metropolis. Those of us even who love London best admit that we are better out of it when the streets are muddy. For our most important thoroughfares are not very wide and there is no escaping the flying splotches which seem to have a remarkable affinity for those portions of the person or clothing where their presence is least to be desired. Yet, as the title of this annotation suggests, we believe there is a consolation even for the mud-besprinkled. This happy solace is to be found in a comparison between the hygienic effects of mud and its opposite condition of dustiness. Of course mud is, roughly speaking, wet dust, and dust is dry mud; but the evil effects of dust far transcend those of mud. In the dissemination of disease, mud remains comparatively innocent, but for the behaviour of dust in this respect no words can be too strong. Widely disseminated and inevitably inhaled, dust particles carry and deposit enormous quantities of disease. Its local and comparatively trifling damages, conjunctivitis, pharyngitis, and rhinitis, pale before its evil powers in carrying more formidable disorders. It has recently been shown how summer diarrhœa is wont to prevail most where there is most dust, and that dust may contain the dried sputum of phthisical patients is only too familiar to us all. We have mentioned only two of the graver diseases in the distribution and implantation of which ordinary dust plays a leading part. There are still other complaints in which the inhalation of ordinary dust is baneful, not to mention the special diseases caused entirely by special forms of dust, and we would have it borne in mind that mud has no similar evil influence. Mud is largely water. Paradoxical as it may sound mud is clean, at least as compared with dust. Moreover, the ultimate fate of mud is in the drain-pipe of the street, but dust too often ends in the windpipe of a man, if not in the alveoli even of his lungs. In future, then, let us not revile the passing hansom, nor as we wipe from our collar the mud of London's winter streets too fully condemn it; but rather gratefully reflect that a passing inconvenience, a mere temporary disfigurement, is a small price paid for freedom from the evil possibilities of the dust of an apparently brighter day. The ideal street knows neither mud nor dust. But in a world of imperfections let us not too hastily condemn mud. Let us rather congratulate ourselves on the absence of dust.

THE RESIGNATION OF THE MEDICAL OFFICER OF HEALTH OF MERTHYR TYDVIL.

THE position of medical officer of health is one of great responsibility, and if the best results are to be obtained by the holder of the office he must have the confidence and the support of the sanitary authority by whom he is appointed. In a large industrial community where members of the authority are so often owners of property which from its very nature frequently comes under the notice of the health department this support is especially necessary, and we believe that in most of the large towns it is ungrudgingly given. We regret to find that otherwise has been the case at Merthyr Tydvil where Dr. C. E. G. Simons, who was only quite recently elected medical officer of health, has felt his position to be so intolerable that he has resigned his office. Dr. Simons was for some years a member of the Merthyr District Council, so it might be supposed that he would be as well acquainted with the temperaments of his former colleagues as they would be with his. With the merits of the dispute which led to the resignation we are not particularly concerned for they were based upon a question of fact as to whether a member of the health committee did or did not make a certain statement which the medical officer considered was a reflection upon his competency. It is, however, within our province to comment upon a condition of affairs the existence of which can only be detrimental to the public generally. In another large district in Glamorganshire the medical officer of health has recently resigned his position, and although there has been no open breach with the local authority it is generally known that they have refused to carry out his recommendations and are now defying the Local Government Board who have urged the acceptance of those recommendations. Surely the time has arrived for the Board to exercise its powers in respect of such sanitary authorities as these.

MULTIPLE ANEURYSMS.

IN the *New York Medical Journal* of Dec. 1st Dr. W. J. Pettus has recorded a remarkable case of multiple aneurysms in syphilis. A fireman, aged 41 years, was admitted to hospital on August 27th with secondary syphilis. He had had a chancre several years before which was followed by the usual secondary symptoms. He had been a hard drinker for many years. About two years before admission he noticed that his right arm was getting weaker and that there was numbness of the inner side of the hand and of the forearm. Shortly after this the left pupil became much larger than the right and the left side of the face would perspire freely while the right was dry. On admission he complained of a dull aching pain in the right arm and shoulder. There was an aneurysm of the first and second parts of the right subclavian artery projecting into the right supra-clavicular space. The apex beat of the heart was in the sixth space to the left of the nipple and was strong and expansile. A systolic murmur and an accentuated second sound were heard. The right radial pulse could scarcely be felt, the left was stronger and about 90. There was right ptosis, but the pupil was normal. The left pupil was dilated. Both pupils reacted to light. The left side of the face was almost constantly wet with perspiration. There was dulness in the hepatic region, extending down to the crest of the ilium. Severe pain was complained of in this region. It began about seven days before admission, when he became quite weak. No pulsation or murmur could be detected. He was kept in bed and 20 grains of iodide of potassium and one-twentieth of a grain of perchloride of mercury were given four times a day. The pulsation in the subclavian aneurysm gradually diminished and a steady hardening could be felt. On Sept. 25th he died from syncope. At the time of death the expansile pulsation had almost disappeared. A necropsy was made, but permission to examine the brain was not obtained. The heart weighed 11 ounces. The left side was hypertrophied and one cusp of the mitral valve was slightly thickened. The aortic valves were competent but the sinuses of Valsalva were greatly enlarged. The ascending and transverse portions of the aortic arch contained nine small sacculated aneurysms, while the entire lining showed evidence of chronic endarteritis. The innominate artery was converted into a fusiform aneurysm which involved the first and second parts of the subclavian and the right carotid

arteries. A great attempt had been made at coagulation, especially in the innominate portion of the aneurysm. A firmly organised clot filled the sac except where there was a small channel for the blood. There was a fusiform aneurysm of almost the entire abdominal aorta, beginning at and including the cœliac axis and extending down to the third lumbar vertebra just below the origin of the inferior mesenteric artery. The bodies of the last dorsal and first, second, and third lumbar vertebræ were eroded to the depth of half an inch. At the origin of the cœliac axis the sac had ruptured on the right side and the blood had burrowed behind the peritoneum, forming an immense clot extending from the diaphragm to the right iliac crest, which pushed the liver forward and upward. The right kidney was about twice the normal size, much flattened, and pushed against the abdominal wall. The medullary and cortical portions were acutely congested. The left kidney was slightly enlarged and congested. From the history the abdominal aneurysm appears to have ruptured about a week before admission. Severe pain in the liver then developed with great weakness and nausea. He constantly complained of pain over the liver and this organ could be plainly felt. The temperature was very irregular, varying from 98·6° F. in the morning to 102·4° at night. Thus abscess of the liver was simulated. Over the blood-clot the peritoneum was acutely inflamed. The right ptosis and left mydriasis were thought to be due to syphilitic meningitis in the region of the third nerves. Possibly the brain symptoms were caused by an aneurysm of the posterior part of the circle of Willis.

REG. v. CHILDS.

AT Maidstone Assizes, before Mr. Justice Bruce, the trial of this case was concluded on Dec. 15th, when the jury returned the following verdict: "Death was accelerated by mechanical means, but the evidence was not sufficient to prove that it was caused by the prisoner." The history of the case is briefly as follows. On May 12th, 1900, Katherine Flynn, age 38 years, a married woman, arrived at New Brompton from Malta. Two days later she visited Mrs. Childs, a midwife who had attended her in three confinements. On May 15th the deceased was taken ill in the afternoon and Mrs. Childs visited the house and emained there from 4.30 P.M. until 10 P.M. On May 16th Mrs. Childs was sent for and arrived at about 11.30 A.M.; and Mr. E. R. Thomas was called in at 2.30 P.M. Mrs. Flynn died ten and a half hours later. Mr. Thomas having no reason to suspect malpractice gave a certificate that death was due to syncope from peritonitis following a miscarriage. From information given to the police the Director of Public Prosecutions instituted proceedings and an order was obtained from the Home Secretary for the exhumation of the body. A post-mortem examination was made at Strood Cemetery on June 19th, when it was found (1) that the deceased had been from four to four and a half months pregnant; (2) that abortion had occurred within a few days of death; (3) that severe hæmorrhage had taken place into the peritoneal cavity through a perforation in the upper part of the uterus of the size of a finger; and (4) that peritonitis of about 24 hours' standing had supervened. The coroner's jury found "that deceased had died from peritonitis resulting from rupture *of the uterus* [the italics are ours] but how or by what means there is not sufficient evidence to show. The jury are also of opinion that such rupture was the result of illegal operation." The prisoner was committed for trial by the Chatham stipendiary magistrate on the charge of manslaughter. It may be mentioned that when Mr. Thomas was called in the deceased was too ill to allow a complete examination. The prosecution alleged that Mrs. Childs had caused the perforation of the uterus after the abortion had commenced by culpable and criminal negligence during some manipulation or instrumental interference. Although it was impossible to say with absolute certainty that the perforation was not due to natural causes, it was contended that it was more likely to have been caused mechanically (1) on account of the situation of the perforation; (2) the period to which pregnancy had advanced; and (3) because there was no evidence of any disease in the wall of the uterus contiguous to the rupture. Testimony of a non-medical nature was adduced in corroboration. The sister of the deceased admitted in cross-examination that the latter had had two operations performed on the uterus for "polypi" but that a child was born after each operation. Counsel for the defence urged that the rupture resulted either from disease or from local weakening of the uterine wall as a consequence of the above-mentioned operations; and further, that if the rupture was of mechanical origin there was no proof that the prisoner was answerable for it. The latter proposition was endorsed by the jury. By way of comment we would point out that it is, to say the least, indiscreet for a midwife to take upon herself the responsibility of attending a case of abortion until it is too late for skilled medical aid to be of service. The prognosis subsequently to the perforation was necessarily extremely grave, and nothing short of an early operation to close the aperture and render the parts aseptic would have given the least chance of recovery. We have frequently expressed the opinion that medical men are not called upon to act as police. Mr. Thomas was placed in a very difficult and unenviable position. There was no evidence, in his opinion, to warrant him in refusing a death certificate and to this we subscribe.

A TELEGRAM from the officer administering the Government of Mauritius was received at the Colonial Office on Dec. 21st, stating that during the week ending Dec. 20th 56 fresh cases of bubonic plague had occurred, 27 of which were fatal. The total number of deaths from plague during the week amounted to 32.

THE MANCHESTER AND SALFORD SANITARY ASSOCIATION AND THE BEER-POISONING EPIDEMIC.

A MEETING of the committee of this association was held at the offices, Brazenose-street, Manchester, on Wednesday, Dec. 19th, Professor J. DIXON MANN being in the chair. The principal item of business on the agenda was a report on the beer-poisoning epidemic by Mr. WILLIAM THOMSON, F.R.S. Edin., F.I.C., of which the following is a copy:—

"At the last meeting of the committee held on Nov. 21st I pointed out to you that I had visited the Manchester Infirmary on the Saturday previous and had been informed of an epidemic which was peculiar to beer-drinkers, and that this epidemic had been going on for three or four months. Dr. Sturrock, the house surgeon, stated that ptomaine poisoning was suspected. I remarked that judging from the symptoms it was due to metallic poisoning and that I believed ptomaines could not be produced during the fermentation process. I told him that I would undertake to investigate the matter at once. I sent a messenger on the Monday following to obtain samples of beer from a house the address of which he gave me, and from which he informed me that one patient who was much affected by the malady had obtained the suspected beer and requested one of my assistants to examine it for metallic poison. My messenger could not find the place and this caused a delay in my examination due to my absence from town. In the meantime I pointed out to your committee, before anything had been published respecting arsenic poisoning, that I believed this epidemic was due to metallic poisoning and indicated the probability of lead and you requested me to

investigate the matter and to report to the committee. In the meantime Dr. Reynolds discovered and published the fact that arsenic was the cause of the epidemic.

I have examined about 240 samples of beer within the last few weeks and found them to contain: two half a grain, one about one-third of a grain, five about one-fifth of a grain, three about one-seventh of a grain, two about one-tenth of a grain, and five from about one-tenth to about one-twentieth of a grain of arsenic trioxide per gallon. 174 contained amounts varying from one-twentieth part to one-two-hundredth part of a grain of arsenic trioxde per gallon and 48 samples were free from arsenic. In samples of beer brewed from the same quantities of sugar and malt, one containing, however, a greater quantity of hops than the other, the former contained considerably less arsenic than the latter. The hops, therefore, appear to precipitate some of the arsenic from the beer. I then found arsenic in beer to the extent of one-thirtieth of a grain per gallon, which was said to be brewed from malt and hops alone and I then obtained and analysed samples of malt.

I have found that a number of samples of malt contained quantities of arsenic which if dissolved in the beer in the proportion of two and a half pounds of malt to the gallon (assuming all the arsenic in the malt to go into the beer) that the contamination so produced would be as great, if not greater, than that of the average arsenic contaminated glucose beer. It is difficult to see how under the present usual methods of malt manufacture arsenic contamination can be avoided, as it is suggested by some that the fumes arising from the burning of anthracite or coke on being allowed to impinge upon barley after it has sprouted during the drying operation gives rise to a peculiarity of taste in the beer which is demanded by beer-drinkers.

In 17 samples of malt which I have examined five were free from any trace of arsenic, one contained a one-seventeenth, one a thirty-third part of a grain per pound, three contained one-fortieth, two one-fiftieth, one one-sixtieth, three one-seventieth, and one one-hundred-and-fortieth of a grain per pound. I have examined five samples of barley which were all free from any trace of arsenic except one, which was a dried barley, and this contained not more than one-five-hundredth of a grain per pound. This arsenic is contained in the vapours from pyrites in the burning anthracite or coke, as is shown by the fact that malt culms, which are the separated sprouted portion of the barley and which I understand are only used for cattle food, contain arsenic (in one sample which I examined) to the extent of one-seventh of a grain per pound. This material exists in very small grains and the fumes from the anthracite or coke would therefore affect a much larger proportionate surface than would be given with ordinary malt, which is a much larger grain.

If we take it, then, that all the arsenic contained in the malt would go into the beer manufactured and assume that two and a half pounds of malt be used for every gallon of beer, and if we take the average of a fiftieth of a grain of arsenic per pound of malt, it is evident that the beer might contain one-twentieth of a grain of arsenic per gallon—i.e., about a gallon and a quart of beer would contain a maximum medicinal dose of arsenic.

I have also found small quantities of arsenic in the hops to the extent of one one-hundredth of a grain per pound, but from the quantity of hops used in making beer the amount in the finished beverage must be extremely minute.

I have also detected arsenic in other mineral substances sometimes added to beer, but these are used in such small quantities that they could not materially affect the beer. Phosphate of soda, for instance, contained about three grains per pound; metabisulphite of potash contained a one-sixty-sixth of a grain per pound. The yeast appears to secrete arsenic from the wort, as I found it to be present in certain samples to a greater extent than in the beer brewed with it.

From this estimation of arsenic in the samples of malt I presumed that that metal must exist in considerable quantity in ordinary soot. I therefore obtained a few days ago some soot from an ordinary kitchen chimney which I have analysed and find it to contain one and a half grains of arsenic trioxide per pound. I have also examined two samples of coke and one of Welsh anthracite used in drying the malt and have found the former to contain in one sample one-twentieth, the other one-seventeenth, of a grain of arsenic trioxide per pound, whilst the sample of Welsh anthracite contained not more than one four-hundredth of a grain of arsenic rioxide per pound. Presumably, therefore, if the present process of malt drying is to be continued, anthracite and not coke should be employed by the maltster.

It is questionable how much arsenic, if any, should be allowed in any article of food. The Scandinavian Government will not allow a carpet or piece of cloth to be brought into their country which contains one-hundredth of a grain per pound, whilst some medical men are inclined to pass a beer containing a one-hundredth of a grain per gallon. This involves a problem which demands serious consideration."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

AT the annual general meeting of the constituents of this Fund held at the Mansion House on Dec. 20th Archdeacon SINCLAIR presided in the absence of the Lord Mayor, and the following report, proposed by the Rev. Prebendary RIDGEWAY, seconded by the Earl of STAMFORD, and supported by Canon MC CORMICK, was unanimously adopted.

The twenty-eighth year of collecting this Fund has resulted, under the Presidency of the Right Honourable Sir Alfred J. Newton, Bart., Lord Mayor, treasurer, in a total of £51,993 14*s.* 6*d.*

The constituents in annual general meeting, assembled in the Mansion House on Dec. 13th, 1899, elected the council for 1900. At the same meeting Hospital Sunday for 1900 was fixed for June 24th, and the usual invitations to coöperate were ordered to be sent to the heads of all congregations within the metropolitan area. Collections were made accordingly and have resulted in a total of £35,856 8*s.* 11*d.*

The Rev. Prebendary C. J. Ridgeway, M.A., of Christ Church, Lancaster Gate, heads the list of contributors with £1519; the Rev. Canon Fleming, B.D., of St. Michael's, Chester-square, collected £1158; and the Rev. Prebendary Eardley Wilmot, M.A., of St. Jude's, South Kensington, £655.

There is a decrease this year of £2313 from congregational collections, owing no doubt to the very large contributions collected to meet the wants of our soldiers and sailors engaged in the war in South Africa. Seven more congregations have collected this year.

In addition to the collections from the contributing congregations Mr. George Herring sent a further munificent donation of £10,000 and expressed his high approval of the manner in which the Fund was administered. Mr. Herring also offered to give an additional £10 000 if the collections could be raised to £90,000. £1090 was received from the estate of the late Mr. Thomas King, of Tisbury, Wilts. £1000 was received from "F. H." Sir Savile Crossley, Bart., again generously contributed £500 (tenth donation); "A. G. P.," £300; and "Delta" sent his twenty-second donation of £200.

The first meeting of the newly-elected council was held on Jan. 19th, 1900, when the General Purposes Committee, the Committee of Distribution, and the Special Committee for the issue of Surgical-Appliance Orders and Hospital Letters were appointed. Sir Edmund Hay Currie and Mr. Richard B. Martin, M.P., as honorary secretaries, and Mr. Henry N. Custance, as secretary, were re-elected. Dr. W. S. Church, President of the Royal College of Physicians of London, was elected to a vacancy on the council caused by the death of Sir James Paget, Bart., F.R.C.S. Eng.

The council gave its general assent to a memorial intended to be presented to the President of the Local Government Board with a view of gaining the exemption of hospitals from local rates.

On the motion of Sir EDMUND HAY CURRIE, seconded by Mr. SANDEMAN, and supported by the CHIEF RABBI the laws of the constitution, which have been in force during the past year, were re-affirmed.

The Rev. A. A. DREW proposed:—

That the council for the year 1900 be re-elected (with the thanks of this meeting for their labours in the past year), for the year 1901, with the Rev. Ravenscroft Stewart, M.A., the Rev. R. Fotheringham, M.A., the Rev. E. H. Pearce, M.A., and Roger de Q. Quincey, Esq., to fill vacancies.

The Rev. Sir B. SAVORY seconded the proposal, which was carried.

June 16th was fixed for Hospital Sunday for 1901, and a

vote of thanks to the Chairman and to the Lord Mayor terminated the proceedings.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: J. H. Fergusson to the *Ramillies* and R. B. Ainsworth to the *Hannibal*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant A. D. Jameson has been instructed to proceed to Woolwich on Jan. 1st, 1901, for duty.

VOLUNTEER CORPS.

Artillery: 4th Lancashire: Surgeon-Captain J. C. M. Given resigns his commission. *Rifle:* The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Andrew Hutton Watt to be Surgeon-Lieutenant. 8th (Scottish) Volunteer Battalion the King's (Liverpool Regiment): William Saville Henderson to be Surgeon-Lieutenant. 1st Volunteer Battalion the East Lancashire Regiment: Arthur Foster to be Surgeon-Lieutenant. 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Claud William Marshall to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

Aberdeen Company: Arthur Hugh Lister to be Surgeon-Lieutenant (supernumerary).

TRANSVAAL WAR NOTES.

Lieutenant-Colonel R. T. Beamish, R.A.M.C., is returning home invalided on board the s.s. *Wakool*. Colonel A. H. Anthonisz, R.A.M.C., and Civil Surgeons E. A. Chartres, T. Kay, G. B. Buchanan, A. C. Bird, and F. O. Stoeher are returning home in the same vessel. At the request of the military authorities the Imperial Yeomanry Hospitals Committee have consented to prolong the duration in South Africa of all the Imperial Yeomanry hospitals until April.

ARMY MEDICAL SERVICE REGULATIONS.

The *Army and Navy Gazette* of last week states that the latest (1900) regulations for the Army Medical Services have been published, and many useful additions appear in them. One alteration particularly demands attention—viz., that now it is ruled that the principal medical officer of a force in the field (Part II. War. para. 626) will be attached to the staff of the general officer commanding-in-chief. This effectually deals with the stupid arrangement which relegated the P.M.O. to the base, at whose suggestion it is difficult to know. Experience in South Africa has doubtless made it clear that a restoration of the principal medical officer to his proper position was urgently needed. The new regulations, together with the "Manual for the Royal Army Medical Corps," and the "Standing Orders" for the same (1899 edition) show work well done at the medical division of the War Office during a time of great pressure.

THE LATE OUTBREAK OF FEVER IN THE PUNJAB.

There has, according to the *Pioneer Mail*, been a severe outbreak of fever of a malarial character in the Punjab during the autumn of this year. It is, however, subsiding. At Lahore and Mian-Mir European officers, civil and military, have been sufferers, while at Ferozepore the whole garrison (with the exception of British troops from the hills) have practically been placed *hors de combat*. Orders have been issued for the 47th Battery R.F.A. to be transferred temporarily to another station for change of air, but at present the men are too feeble to be moved. The disease is of the Peshawar fever type and it has prevailed in the native city as well as in the cantonments. Delhi also has been among the towns that have suffered and the mortality in some of the districts is stated to have been heavy.

RECRUITING.

In 1899 the Inspector-General of Recruiting was able to point to a return of 42,700 men who had accepted service in the regular army, as compared with 38,418 in 1898, 33,722 in 1897, and 27,809 in 1896. The increase during the present year will probably be still greater. Major-General Borrett in his report on last year's recruiting states: "The war in South Africa largely contributed to the material improvement which set in during the early months of the year; thus the year has closed as the best since the introduction of the short service system. Not only did more recruits present themselves for enlistment, but they were of decidedly better physique. While recruiting was in an unsatisfactory condition the percentage of recruits taken under standard had been very high, but in the last quarter of the year it fell materially."

THE EXPERIMENTAL TRIAL OF A NEW SYSTEM OF COOKING IN INDIA.

It will be remembered that it had been determined, as an experimental measure, to replace the native cooks employed in connexion with British regiments serving in India by cooks drawn from the regiments themselves. The new system has not proved altogether satisfactory so far as the experiment has been tried at present, but it is too early yet to pronounce any definite opinion in regard to it. The native servants of India are excellent cooks, as a rule, and it is surprising how well they contrive to succeed in their art, often under very adverse conditions, but it is open to doubt whether they are as careful in the matter of cleanliness and sanitary precautions as are Europeans; hence it was, we believe, that it was determined to give a trial to the latter.

Correspondence.

"Audi alteram partem."

"ISOLATION HOSPITALS."

To the Editors of THE LANCET.

SIRS,—As I before pointed out[1] isolation hospitals are preventive institutions or nothing. Keeping this fact in view the chart which Dr. A. J. Tonkin furnishes in your issue of Dec. 22nd (p. 1835) only adds force to my argument that these preventive institutions do not prevent. The story would have been told with added emphasis had Dr. Tonkin continued the upward curve for 1899 (Nottingham) to 2580 instead of leaving it at 1500. Your correspondent does not attempt to deny the importance of the figures, but he seeks to explain them on the hypothesis of "well-known and recognised periodic waves." I do not wish to imitate the tone of Dr. Tonkin's letter, but I may be allowed to say that such "periodic waves" are neither well known nor recognised. It is a small matter that I have failed to discover such a law, but I find on page 124 (vol. ii.) of Allbutt's "System of Medicine" these words, "On carefully surveying the records of scarlet fever epidemics in the past, it is manifest that nothing approaching periodicity has characterised its epidemic prevalence." But if it be granted that such epidemic prevalence is merely an operation of a fixed law then our efforts at prevention are absurd and unscientific. Your correspondent's line of argument only proves what was known before—that the real *raison d'être* of isolation hospitals is being lost sight of, the futility of efforts directed to prevention having been silently recognised long ago. Let your readers, Sirs, again examine Dr. Tonkin's chart by the light of the fact that he is not authoritatively supported in his views about periodic prevalence and they must conclude, with me, that that gentleman has rendered me considerable assistance. In his conduct of the defence he has made the not altogether unknown mistake of calling one of the most powerful witnesses for the prosecution.

I am accused of having dealt only with a period "when scarlet fever was epidemic in all the large towns." In view of the impossibility of reproducing all the statistics which bear on this question in one letter I did what seemed to me quite fair: I gave the returns of several of the largest towns, taking them in the order of their importance. The editorial comments which called forth my reply had reference to a booklet dealing with the 32 large towns of England and Wales, from the dates when each of these came under some form of notification to the present time. When that letter was written it never dawned upon me that any man who had in view the objects aimed at by the establishment of isolation hospitals would build up an argument founded on the admission that no effort can stay the oncoming of the periodic wave. It is a kind of logic which I find extremely puzzling. That it is giving

[1] THE LANCET, Dec. 15th, 1900, p. 1759.

the whole case away in the plainest manner goes without saying.

But to the question: What is the explanation of the tremendous fact that, in spite of the giant strides which municipalities have been making in the direction of improved sanitary conditions; in spite of the lavish spending—not to say squandering—of public money on everything which holds out the least hope of sanitary betterment; in spite of the great army of sanitary officials which is exerting itself to the utmost to improve the public health, an authority is able to tell us to-day that scarlet fever is endemic in every large town in the United Kingdom. It will be granted that the contagious element of scarlet fever—the materies morbi—is always derived from a previous case. If, then, isolation be the remedy the aggregation of 93 per cent. (practically all) of notified cases must succeed in stamping out the disease at no distant date. If this end is not attained why is it not attained? Is it not a reasonable presumption that the explanation will be found in the continued infectivity of hospital discharged patients? But we are told that the number of persons who receive their infection through the medium of the hospital is so small that it may be regarded as a *quantité négligeable*. This notion is so preposterous that one cannot help a feeling of astonishment that medical scientists have allowed themselves to be blinded by a definition so stupid and mischievous as the accepted definition of a "return" case. Dr. Tonkin, who errs in good company, informs us that "the dangerous cases are from 2 to 5 per cent." A case, therefore, which slays at large is not a dangerous case because it does not conform with the postulate laid down that a "return" case must arise in the home. As a matter of fact, the definition, trammelled as it is by limits of place and time, does not give a scintillation of the extent of injury inflicted by these institutions. A discharged patient may sow the disease broadcast and for various and obvious reasons leave the home untouched. It frequently happens that the other inmates of the home have had a mild, though temporarily protective, attack immediately precedent to the removal of the only well-marked case to the hospital. There may be no other children in the home, or, if there are, these may have been protected (in so far as one attack does prevent the occurrence of another) by previous attacks, or may be naturally immune.

Dr. Tonkin thinks that the continued infectivity of the home (after removal) may account for some of the cases which pass for return cases. If this be the case he has advanced a second argument against removal; but new centres of infection are being constantly established by discharged patients who go elsewhere than to their own homes. Cases in point: 1. The relative of a distinguished professional man resident here went straight from the hospital to her home in a distant county, where she promptly spread the disease. 2. A little girl called on her way home from the hospital at the house of a relative, where she played for 20 minutes with her cousin. In a few days the cousin sickened and was presently dead from scarlet fever. 3. A well-known tradesman was asked by a Derby friend to receive the son of the latter into his home for a few weeks' change, the son being a recently discharged patient from the Derby Isolation Hospital. The only child of the host sickened a few days after the advent of the guest and died at the end of a fortnight. Not one of these cases, be it understood, fulfilled the conditions of a "return" case. They burden no annual reports and find no place in tabulated returns anywhere. They go, however, to swell the lists of notified cases and we find them again in the Registrar General's returns. Your correspondent says that these questions will have to be discussed and determined in the near future, and in that event graciously credits me with having accomplished some little good. I am obliged to him. When the investigation takes place it will be found that other questions which have not been raised by this discussion will assume great importance. Amongst these the high mortality rate of hospital-created cases and the occurrence and mortality rate of cases of secondary infection will have to come under discussion. We shall also want to know a little more about that formidable disease, post-scarlatinal diphtheria, the incidence of which is dependent on life in hospitals and the mortality of which is 58·3 per cent. as against the 30·4 per cent. of cases of ordinary diphtheria. The discussion of questions of such serious import to us as a nation will have to be approached in a spirit somewhat different from that which some sanitarians contrive to infuse into discussions of the kind and it will have to be carried on unhampered by senseless formulæ and unlimited by meaningless definitions.

I am, Sirs, yours faithfully,

Nottingham, Dec. 22nd, 1900. EDWARD DEAN MARRIOTT.

IS THERE A PSEUDO-DIPHTHERIA BACILLUS?

To the Editors of THE LANCET.

SIRS,—The report of Dr. J. Priestley, summarised in THE LANCET of Dec. 22nd (p. 1821), deals with a question of very great importance—namely, the possibility of distinguishing between the organisms of diphtheria and pseudo-diphtheria for the purposes of clinical diagnosis. The question briefly amounts to this: Is it possible, in the time allowable for useful clinical diagnosis, to distinguish between these two with any degree of certainty justifying a negative report as to the existence of diphtheria? The question has been constantly before me during the last 12 months in which I have examined cultures from some 1800 throats made in connexion with the securing of the Greenwich Royal Hospital School against an outbreak of diphtheria. In only two or three of this number have I been able to identify anything as morphologically identical with Hoffmann's bacillus, and I certainly do not believe it to be wise or right to act upon such a presumption to the extent of treating such cases as non-infectious. Indeed, no one appears to take such a line, which is as much as to say that those who identify the organism in question, myself among the number, have not the courage of their convictions and dare not take the responsibility of acting upon their opinions. Moreover, it appears to be generally admitted that the one organism may be converted into the other. Surely this is to give up the whole position and to introduce a heresy which may attain very dangerous proportions. In order to preserve a distinction between two organisms, it must be shown that they are at all times and under all circumstances incapable of transmutation. If ever one can turn into the other, then the only logical deduction is that they are essentially identical.

Dr. R. T. Hewlett, who has studied this subject exhaustively, after giving a careful tabular statement of the differences between the two organisms, makes the damaging admission just referred to, the apparent possibility of conversion, and no conclusive one of the tests which he furnishes is capable of application within the time at the disposal of a clinical investigator. This being so, it seems plain that it is the duty of every person who bears responsibility in this respect to refrain, when an organism morphologically resembling the diphtheria bacillus is found in a culture, from stating that the organism so found is not a dangerous one.

The whole matter is, as I have said, summed up in the one statement which I desire to emphasise in every possible way—namely, that *if there be a possibility of converting the pseudo-diphtheria bacillus into the diphtheria bacillus, then there is no such thing as a pseudo-diphtheria bacillus at all*, and this is, I confess, my own present position.

I am, Sirs, yours faithfully,

EDWD. C. BOUSFIELD,

Dec. 22nd, 1900. Bacteriologist of the Borough of Camberwell.

THE OPERATION OF CIRCUMCISION.

To the Editors of THE LANCET.

SIRS—Mr. D'Arcy Power, in his interesting paper on Some Disappointments of Surgery,[1] makes the following very apposite remarks:—"There are few operations more often performed than those of circumcision and for hare-lip, yet there are few which may give more disappointing results. The aim of a perfect circumcision is to remove just so much of the foreskin as is necessary to liberate the glans penis and to avoid removing so much as to leave the patient a '*curtus Judæus*.' Such a perfect operation is rare, but I do not recollect that the difficulties were ever pointed out to me." It is undoubtedly true that such a perfect operation is rare, but why is this the case? The fact is that circumcision is generally regarded as a very simple operation and one which any surgeon feels competent to undertake, but if one may judge from a good many cases which come

[1] THE LANCET, Dec. 22nd, 1900, p. 1789.

under notice from time to time the object of the operator would appear to have been not to remove just so much of the foreskin as is necessary to liberate the glans penis, but to cut away as much as possible of the prepuce without injuring the glans penis, which is thus left absolutely denuded from apex to base.

It may be presumptuous in me to suggest that possibly the text-books on surgery are partly to blame for the extensive mutilations which are frequently practised under the name of circumcision, but the usual method described in most books of placing the circumcision forceps over the line of the corona and then allowing the glans to slip out of the way when the whole of the skin beyond the forceps is cut off has always seemed to me to err in the direction of doing too much. The plan I have generally adopted and found successful is to first seize and gently draw out the end of the prepuce with a pair of artery forceps and then to apply the circumcision forceps not over the corona, but over the end of the glans penis which it just clears. With the subsequent retraction which immediately ensues and after the mucous membrane is slit up along the dorsum it will be found that quite sufficient skin has been removed, no unnecessary mutilation has been produced, and the object of the operation has been satisfactorily attained.

All this may seem a small matter, but no detail, however small, is unworthy of attention in even the most trifling operations of surgery.—I am, Sirs, yours faithfully,

E. DYKES BOWER, F.R.C.S. Edin.

Gloucester, Dec. 24th, 1900.

CACODYLATE OF SODIUM: A WARNING.

To the Editors of THE LANCET.

SIRS,—It is unfortunate that the lay press should have selected for recommendation as a popular remedy so lethal an agent as cacodylate of sodium. We are told that although it contains 55 per cent. of arsenious acid it has none of the toxic action of that drug and that it may be given by mouth in doses of from 20 to 40 centigrammes with perfect safety. This is not my experience. On Dec. 9th I ordered for a patient, aged 21 years, suffering from phthisis, one grain of cacodylate of sodium in a pill. On the following day there was a distinct odour of garlic in the breath and on the second day this was much more marked, was noticeable at some distance from the bed, and suggested the smell of phosphorus. On the third day the patient vomited twice and the odour of the breath was almost gangrenous in character. On the next day, after 11 doses had been taken, the patient was found to be suffering from many of the symptoms of arsenical poisoning. Her face was pallid, the eyelids were œdematous, the conjunctivæ were injected, the tongue presented the appearance of a piece of raw beef, and there was complete loss of appetite. In addition there was arsenical neuritis. The patient complained of pains in the limbs, especially in the lower extremities. There was tenderness on deep pressure over the course of the nerves, more marked in the left leg than in the right. She was unable to move the left leg and there was marked loss of power in the extensors of the left wrist. The patellar reflexes were not abolished, but the attempt to elicit them caused great pain. There was no diarrhœa and there was no albumin in the urine. The odour of the breath disappeared within 24 hours of the suspension of the remedy, and her general condition improved, but the loss of power in the leg and in the arm still persists. The drug was obtained from one of the most reliable chemists in London and was made by Messrs. Pointet and Co. of Paris. It was given in about one-third the minimum dose recommended by Galliard and other French physicians and its effects were carefully watched, but in spite of all precautions these untoward effects ensued. Gautier states that it may be given hypodermically, in doses of three-quarters of a grain. My experience may be exceptional, but I cannot but think that it is a dangerous remedy which should be employed with considerable caution. I am, Sirs, yours faithfully,

WILLIAM MURRELL.

Welbeck-street, W., Dec. 16th, 1900.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The Carmichael prize of £120 has been awarded by the President, Vice-President, and council to Mr. Horatio Nelson Hardy.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Sanitary Improvements under the Epidemic Diseases Act.—Municipal Subscriptions to the Pasteur Institute of India.—The Health of the Cities of Bombay and Calcutta.—The Plague.

THE Epidemic Diseases Act has been made use of for other purposes than plague administration, and not the least of them has been the improvement and demolition of insanitary buildings. This Act gives powers not possessed by municipal authorities and has been taken advantage of in Bombay city, where during the past year 271 houses and sheds have been demolished and 629 declared unfit for human habitation. In addition compulsory improvements have been effected in a very large number. It is to be hoped that the powers thus given during a plague epidemic will be transferred to municipal authorities as a permanent measure. Few if any improvements have been carried out under these powers in Calcutta.

The authorities of the Pasteur Institute of India have been inviting certain municipal and district boards to contribute annual subscriptions in aid of the institute. At Lucknow, notwithstanding some opposition, it was carried that "as the Pasteur Institute is a scientific institution for the alleviation of the sufferings of humanity it should be aided by the board and that inquiries be made as to the financial condition of the institution with a view to the board's making a suitable grant." On the other hand, at Calcutta, where the application was rejected, it received opposition from the chairman of the municipal board and another European member.

The draft report of the municipal commissioner for the city of Bombay for 1899-1900 has lately been presented. In it he refers to the exceptional rainfall of only 35·9 inches, which was less than half the normal and half of which even occurred in the month of June, and he mentions how the water-supply became not only scanty but impure. At the same time the worst famine of the century commenced, causing local destitution in Bombay city and a large immigration of destitutes from the famine-stricken areas. The mortality of the city has been very high, there having been 4473 more deaths than in 1898 and the death-rate has been 68·67 per 1000 per annum. The total deaths for the year were 56,434, being 17,785 above the average. In the month of March when plague was at its worst 10,183 deaths were recorded. Plague is credited with 15,796 victims, and diseases of the respiratory system caused 8650 deaths, phthisis 6029 deaths, fevers 5063 deaths, and diarrhœa and dysentery 4286 deaths.

In consequence of the high infantile and maternal mortality in Bombay city the municipality has appointed a committee "to consider and report on the desirability of entertaining one or more diplomaed native midwives for each ward of the city for giving relief to poor women in need of assistance at childbirth." At present the women doing this work are ignorant and dirty and they spread disease far and wide.

The general mortality in Bombay city shows no signs of diminution. For the week ending Dec. 4th it was 804, as against 790 during the previous seven days. During the past quarter it has been at the rate of 84·09 per 1000 per annum. Amongst high-caste Hindus the rate is 79·72 per 1000, amongst Mahomedans 83·55, amongst Parsees 38·51, and amongst Europeans 39·32.

The general mortality in Calcutta is also high and shows no sign of diminution. For the week ending Dec. 1st there were 681 deaths, against an average of 552, a rate of 52·1 per 1000, against an average of 42·2. In both cities plague seems again on the increase. 70 deaths are recorded this week in Bombay and 76 in Calcutta.

Plague has again broken out in the Punjab and at Bangalore it has much increased. The members of the dhobie (washerman) class are the chief sufferers there.

Dec. 8th, 1900.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Beer Scare.

CASES of peripheral neuritis still occur in and about Manchester and inquests have still to be held. The various boards of guardians discuss the question of beer for the inmates on Christmas Day, and the discussion generally ends with the triumph of beer, which on this occasion, we must hope, will be free from arsenic. At the meeting of the Leigh Board of Guardians on Dec. 19th a motion was brought forward in favour of Sir Cuthbert Quilter's Pure Beer Bill. The mover stated that several workhouses were now crowded with men and women patients suffering from beer-poisoning. For this statement he was taken to task by a medical member of the board, who is reported to have said that "post-mortem examinations had been made in the case of deaths supposed to have been caused by beer-poisoning, and it had been denied that these deaths were due to peripheral neuritis." This negative statement will scarcely overturn the positive evidence that exists. Motions in favour of Sir C. Quilter's Bill have also been passed by the Prestwich Board of Guardians. The experts engaged by the Manchester Brewers' Central Association to investigate the matter have issued a report in which the use of Reinsch's test, with proper precautions, is advised as "it is the best and most reliable test for arsenic in beer." In the *Manchester Guardian* of Dec. 22nd a letter from Mr. J. Alfred Wanklyn appeared, in which he expressed astonishment at this and said that an eminent German chemist (name not given) in 1861 showed that 20 grains of arsenic in a gallon of beer would be passed as free from arsenic by the method recommended by the experts. In to-day's paper Mr. Alfred H. Allen of Sheffield says: "It is possible, however, that the form of arsenic—which Mr. Wanklyn carefully omits to mention—may have been that of arsenic acid in which case Reinsch's test in its simplest form, as recommended by the Manchester Brewers' Commission, will not indicate the presence of the poison unless certain precautions and great care be taken." The modification he proposes is "to oxidise any sulphites by means of bromine-water before boiling with copper, and add to the liquid a small quantity of a solution of cuprous chloride in hydrochloric acid to reduce the arsenic to the arsenious condition."

Proposed Jewish Hospital.

The Jewish community in Manchester have for some time been considering the question of establishing a Jewish hospital here. A numerously attended adjourned conference was held recently and the chairman stated that inquiries had been made with the view of ascertaining if any of the existing hospitals "would entertain the proposal to establish a Jewish ward or wards, or a kosher kitchen, inside their buildings." Unfavourable replies had been received from the Manchester Clinical Hospital, St. Mary's Hospital, the Maternity Hospital, Salford Royal Hospital, and Ancoats Hospital. Negotiations with the Manchester Royal Infirmary in regard to the supply of kosher food to the Jewish patients are going on and a final communication is expected shortly. If favourable the result would be that a kosher kitchen would be established from which Jewish patients in all the hospitals in the towns would be supplied with food. "The kitchen would, of course, be outside the infirmary." So far it appears that the infirmary board has not been inclined to provide either separate Jewish wards or a kosher kitchen. The chairman stated that there was no difficulty as regards the medical profession. One of the gentlemen said that "in the case of a new infirmary being built for Manchester, or the present building being extended, the Jews of the city would have a claim upon the authorities for a ward or two." Much will depend on the final decision of the infirmary board. It was agreed to adjourn the conference for a fortnight.

Cottage Baths.

For years past efforts have been made by the Sanitary Association to induce the Manchester Corporation to provide cottage baths in some of the poor districts of Manchester. They have been specially asked for in Hulme but hitherto without success. The Baths Committee have not been unmindful of the duty and privilege of spending many thousands on a fine building here and there in the city and its suburbs, but they have turned a deaf ear to entreaties from those who know the very poor, those whose needs are not met by the palatial baths, into which they have neither the courage nor the impudence to enter with their dirty little babes in want of a wash. Living, perhaps, in one room, sadly crowded, with little space and poor appliances for washing themselves, their children, or their clothing, there are numbers of poor women who would be thankful of the provision of a place which they could enter without feeling abashed where they could wash and dry their clothing and cultivate cleanliness in themselves and their children. The comfort, health, and self-respect of the population would thus be increased at a small comparative cost. But no, the Manchester Corporation, like the Syrian leper of whom we have read in a very old book, looks for some great thing to be done. Undeterred, however, by former rebuffs the committee of the Sanitary Association at the meeting held on Dec. 19th, presided over by Professor J. Dixon Mann, "decided that a further appeal should be made to the corporation to try an experiment in this direction." Perhaps it is too much to hope that the corporation which has not shrunk from the enormous responsibility of the Ship Canal, the great sewage scheme, electrical lighting, and electrical tramways, will venture on anything so reckless as the provision of a cottage bath for Hulme.

Cancer Pavilion and Home.

The annual meeting of the supporters of the Manchester Cancer Pavilion and Home was held on Dec. 21st. There has been some falling off in the various sources of income, as there is a deficit at the bank of £672, but the board look hopefully to "the generosity of their friends." The hospital building has been extended and much needed increase of accommodation for patients has been gained and the electric light has been installed throughout the hospital. The medical report states that of the 109 new cases treated during the year 68 were from Manchester and the immediate neighbourhood, while 41 were from other Lancashire or Cheshire towns. During the past year the hospital was really a home for 40 patients who could not be treated properly at their own homes and their sufferings were alleviated as much as possible during their last days, for they all died in the hospital. This of course raised the death-rate, and it prevents any comparison with that of other hospitals. The committee recorded their sense of the loss sustained by the deaths of Professor D. J. Leech and Professor Thomas Jones. Dr. R. B. Wild is now honorary physician in place of Professor Leech. Mr. F. A. Southam and Mr. G. A. Wright have been appointed honorary surgeons, and Mr. J. W. Smith has been appointed honorary surgeon and superintendent.

Colour-matching in Artificial Light.

At a meeting of the Manchester section of the Society of Dyers and Colourists on Dec. 14th "an improved light for colour-matching" was described. The hours of bright daylight are short in Manchester, and "a light in every respect similar to daylight" would be valuable to operating surgeons, microscopists, and many others besides those engaged in matching colours. The patent process is thus described: "The arc electric light is taken as a basis, and by interposing a screen of specially prepared glass the rays which proceed from the red end of the spectrum are absorbed and the colour may be thus examined in a light in every respect similar to daylight."

Dec. 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Edinburgh.

AN extraordinary meeting of the Royal College of Physicians of Edinburgh was held on Dec. 19th, 1900, Dr. Fraser, the President, being in the chair. The secretary reported that the following office-bearers had been elected for the ensuing year:—Treasurer: Dr. Peter A. Young. Secretary: Dr. R. W. Philip. Librarian: Dr. George W. Balfour. Curator of research laboratory: Sir John Batty Tuke. Examiners for the Licence—First Board: physics, Dr. Dawson Turner and Dr. Alfred Daniel; chemistry, Dr. W. G. Aitchison Robertson and Dr. John Gibson; and biology,

Dr. John Macmillan and Mr. Arthur T. Masterman, Second Board: anatomy, Sir James A. Russell and Dr. Joseph R. Whitaker; and physiology, Dr. D. Noël Paton and Dr. J. Craufurd Dunlop. Third Board: pathology, Dr. Norman Walker, Dr. Robert A. Fleming, and Dr. Francis D. Boyd; and materia medica, Dr. J. Murdoch Brown, Dr. G. Lovell Gulland, and Dr. Alexander Lockhart Gillespie. Final Board: medicine, Dr. Andrew Smart, Dr. Claud Muirhead, Dr. James O. Affleck, Dr. Charles E. Underhill, Dr. W. Allen Jamieson, Dr. Alex. James, Dr. Byrom Bramwell, Dr. G. A. Gibson, Dr. J. Graham Brown, Dr. Alexander Bruce, Dr. William Russell, and Dr. R. W. Philip; midwifery, Dr. J. Halliday Croom, Dr. D. Berry Hart, Dr. A. H. F. Barbour, Dr. R. Milne Murray, Dr. F. W. N. Haultain, and Dr. J. W. Ballantyne; medical jurisprudence, Dr. R. Peel Ritchie, Dr. James Andrew, Dr. P. A. Young, Dr. James Carmichael, Dr. J. Allan Gray, and Dr. R. S. Aitchison; and insanity, Sir John Batty Tuke, M.D., and Dr. T. S. Clouston. Examiners for the Membership: Dr. G. W. Balfour, Dr. R. Peel Ritchie, Dr. A. R. Simpson, Dr. Andrew Smart, Dr. Claud Muirhead, Dr. T. R. Fraser, Dr. John Wyllie, Dr. James Andrew, Sir John Batty Tuke, Dr. T. S. Clouston, Dr. J. J. Kirk Duncanson, Dr. P. A. Young, Dr. James O. Affleck, Dr. John Playfair, Sir John Sibbald, Dr. Charles E. Underhill, Dr. W. Allan Jamieson, Dr. Alexander James, Dr. Peter M'Bride, Dr. Byrom Bramwell, Dr. G. A. Gibson, Dr. J. Halliday Croom, Dr. D. Berry Hart, Sir James A. Russell, Dr. W. S. Greenfield, Dr. A. H. F. Barbour, Dr. Alex. Bruce, Dr. James Ritchie, Dr. William Russell, Dr. G. H. Melville Dunlop, Dr. N. T. Brewis. Dr. John Thomson, Dr. J. Haig Ferguson, and Dr. William Elder. Examiners for the Diploma in Public Health—First Examination: practical work in the laboratory, Dr. Charles Hunter Stewart; chemistry, Dr. Alexander Crum Brown; physics, Dr. Dawson Turner; and meteorology, Sir Arthur Mitchell. Second examination: epidemiology and endemiology, Dr. Claud Muirhead; practical sanitation, Dr. J. Allan Gray; and sanitary law, vital statistics, and statistical methods, Sir James A. Russell. Registrar, Dr. R. W. Philip; superintendent of laboratory, Dr. D. Noël Paton; clerk, Mr. Alexander Sholto Douglas; auditor, Mr. John Wilson Brodie; sub-librarian, Mr. John Matheson Shaw. The college unanimously appointed Dr. Andrew and Dr. P. A. Young to be its representatives on the board of management of the Royal Infirmary.

The General Medical Council and the Pharmacy Acts.

The Glasgow Southern Medical Society at its meeting on Dec. 20th continued the discussion on the above subject which began at the meeting held on Dec. 14th, a report of which appeared in THE LANCET of Dec. 22nd (p. 1813).[1]

Gifts to Aberdeen University.

Lord Strathcona and Mount Royal, Lord Rector of the University, delivered his rectorial address to the students on Dec. 18th. At the close he announced that if the people of Aberdeen would collect £50,000 or £75,000 towards the complete equipment of the university and the extinction of the present debt he would add £25,000 to that sum. Since then Mr. C. W. Mitchell, Jesmond Towers, Newcastle-on-Tyne, has offered to take over the debt provided that it does not exceed £20,000. The debt is under that amount. Some local donations have also been intimated.

Dec. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Health of Belfast.

THE continued prevalence of typhoid fever and the fact that many of the recent cases have occurred among the better classes in newly constructed and well-drained houses, built upon virgin soil, have so much impressed the Public Health Committee of the Belfast Corporation that they have issued definite instructions to their medical superintendent officer of health that much more searching inquiries than those which have hitherto been undertaken regarding the existence of typhoid fever are to be made in each case and the findings of the inspectors are to be reported to the committee for their information. It has also been decided that the medical officer of health should be required to carry out literally the instructions laid down in reference to the inspectors by the Local Government Board for the discharge of their duties as such. The death-rate for the week ending Dec. 8th was 22·1 per 1000 from all causes. The death-rate for the week ended Dec. 15th was from all causes 18·7, and 1·3 per 1000 from the principal zymotic diseases. 23 cases of typhoid fever were notified last week. The medical officer of health said that he had personally visited every house in which a case of typhoid fever had been notified as having occurred and he found that in no case was the disease attributed to the eating of shell-fish or to defective drainage. It has been decided to recommend that a room be appropriated and fitted up in the Falls Baths for the supply of sterilised milk and the attention of the Local Government Board is to be drawn to the desirability of obtaining in their next Bill which they promote power for the provision by local authorities of establishments for the sterilisation of milk and the sale of the same to the public.

Dissemination of Scarlet Fever.

Mr. G. B. Snape, one of Her Majesty's Inspectors of Factories, summoned at the Belfast Police-court a woman for allowing wearing apparel to be made on her premises while an inmate of her house was suffering from scarlet fever. It was admitted that a technical breach of the law had been committed, but it was urged that disinfectants had been used and that the patient had been isolated from the general workers on the premises. The presiding magistrate, looking upon it as a serious case, imposed a fine of £4 and £1 costs.

Monaghan and Cavan Lunatic Asylum.

A meeting of the committee of management of the Monaghan and Cavan District Lunatic Asylum was held on Dec. 13th and the following subjects were considered: (1) the provision of additional accommodation for at least 65 patients, (2) laundry extension, (3) the insufficiency of dining-hall accommodation, (4) the inadequacy of stores, (5) the necessity for providing a general bathroom for males and females, and (6) the provision of an attendants' messroom. After long discussion of the suggested improvements it was decided to defer the consideration of the matter. It seems that £7,700 have been spent on drainage.

Poor-law Medical Officers' Superannuation (Ireland).

A Bill is to be introduced next session to extend to Poor-law medical officers in Ireland the provisions of the Poor-law Officers' Superannuation Act, 1896. One of the leading features of the Act which it proposes should apply to medical officers in the Poor-law service in Ireland is that medical officers shall contribute from 2 to 3 per cent. of their stipends, according to length of service, towards a superannuation fund from which their pensions will be paid, the percentage being based upon the experiences of large public bodies, such as those of London, Liverpool, and other large towns in England, and found to be sufficient to cover every outlay in regard to superannuation, relieving thereby the rates from which pensions are now paid. The medical officers in Ireland now seek by means of a percentage deduction from their salaries to provide for their old age and are prepared to make this sacrifice—although they have a statutory claim to superannuation under existing Acts—so as to eliminate the element of uncertainty which at present prevails.

The Question of Abattoirs in Belfast.

At the present time there is a discussion in Belfast as to the advisability of erecting one or a number of abattoirs. The council have decided to have one central abattoir, and undoubtedly this is the wise course, because it will be cheaper to do so, as it will allow inspection to be more perfect. Why should a city of 360,000 people like Belfast have five abattoirs scattered over its area when Paris, with a population of 2,500,000, is arranging to close two of these places so that it will have only two abattoirs where slaughtering of cattle is compulsory? It is satisfactory to learn that in Belfast it has been decided to have sound meat stamped. In this way the interests of the people will be protected.

Public Health Acts in Ireland.

At a meeting of the Medical School of the Catholic

[1] The report of the meeting of Dec. 20th will be found in another column.—ED. L.

University on Dec. 20th for the conferring of exhibitions and prizes for the year the dean of the medical faculty, Sir Christopher Nixon, made reference to the Public Health Acts in Ireland. He said that it was an admitted fact that the organisation for the carrying out of the provisions of the Public Health Acts was in Ireland miserably inadequate, and contrasted most unfavourably with the state of things existing in England and Scotland. It was to be hoped that they were on the eve of important changes in reference to public health administration in Ireland. The Local Government Board had, he understood, issued an order a considerable time ago by which it was provided that a superintendent sanitary officer should be appointed for each university, but no steps had been taken to have the order carried into effect. The interests of public health demanded that such an officer should be appointed.

National Association for the Prevention of Consumption in Ireland.

A meeting of the executive committee of the Dublin branch of this association was held at the Royal College of Physicians of Ireland on Dec. 18th, Sir John W. Moore, M.D., being in the chair. The minutes of the last meeting, which were read and confirmed, contained the following important resolution which was passed at the meeting:—

That the executive committee of the Dublin branch of this association having learned with pleasure that the Public Health Committee have recommended the corporation of the city of Dublin to make pulmonary tuberculosis a notifiable disease, would strongly urge the sanitary authorities to take such steps as may be necessary to provide for the microscopical examination of the sputum of patients attending the city dispensaries, and that a copy of this resolution be forwarded to the Local Government Board and to the corporation.

The New Irish Medical Member of Parliament.

Dr. Edward C. Thompson of Omagh, who has just been returned unopposed as Member of Parliament for North Monaghan, has enjoyed a large practice as a physician for many years—in fact, ever since he received the M.B. of Dublin University in 1871. He was appointed surgeon to the Tyrone Infirmary and passed the Fellowship examination of the Royal College of Surgeons in Ireland in 1885.

Dec. 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Receiving House for Poor Persons during Disinfection of their own Homes.

AT a recent meeting of the municipal council two members, M. Labusquier and M. Gelez, put forward a proposition which seems to be the logical outcome of the restrictions which modern hygiene imposes upon the inhabitants of cities. Disinfection is obligatory in France at the present day after the death of any person from a contagious disease and such disinfection is of no use unless it be thoroughly carried out. Those in easy circumstances can go to an hotel during the disinfecting process. But working men and poor people who often live with their families in one or two rooms are very awkwardly placed during the carrying-out of the necessary measures, and it is precisely among such persons that disinfection is most necessary on account of the very unhygienic state of their surroundings. The present regulations for disinfection mean practically that the whole family is turned into the street for 24 hours. M. Labusquier and M. Gelez consider that the city of Paris should erect a special disinfection station where poor people might be put up while their rooms were being cleansed and where their clothing should be disinfected by means of stoves while they were in bed. It was mentioned that Brussels possessed an establishment of this sort which was found to be of the greatest use. The municipal council, however, considered that although the idea was an excellent one, yet that the expense which would have to be incurred was somewhat startling. It was also considered that to be of any real service detention in such refuge stations would have to be made obligatory and that such a regulation would be considered as tyrannical. The question, however, is still under discussion and a committee of the council has been appointed to visit Brussels and to report upon the working of the system there.

Dec. 24th.

Obituary.

LIONEL E. KAY-SHUTTLEWORTH, M.A. CANTAB., M.R.C.S. ENG.,

H.B.M. VICE-CONSUL AT SAN REMO.

THE death of Mr. L. E. Kay-Shuttleworth deprives the British profession on the Riviera of one of its best-known and most esteemed members. He was born in 1849, being the third son of the late Sir James Kay-Shuttleworth, Secretary to the Council of Education. His mother, Lady Kay-Shuttleworth, was one of the founders of the English colony at San Remo, where the greater part of her son's active life was passed. He was educated at Wellington College and entered in due course at St. John's College, Cambridge, where he graduated and subsequently proceeded M.A. Having settled upon medicine as his profession he entered at St. George's Hospital. At this school he held the posts of house surgeon and anæsthetist. Becoming interested in aural surgery he was appointed assistant in the aural department, at the same time being associated with Mr. (now Sir William) Dalby, aural surgeon to the hospital, in his private practice. In the year 1882 he decided to start practice at San Remo. He soon became one of the surgeons to the International Hospital for Diseases of Eye, Ear, Throat, and Nose, where his former experience proved of the greatest value, his opinion being highly esteemed by his colleagues. He was for many years both medical officer and treasurer to the San Remo Surgical Home for Invalid Ladies. In 1897 he became British vice-consul and employed in this duty sound business abilities and singular kindness of heart. He was a good surgeon, excellent in the fashioning of all mechanical appliances, and a dexterous operator. Latterly he had taken up the study of the Roentgen rays and had achieved considerable success. The bent of Mr. Kay-Shuttleworth's mind was essentially mechanical; in many handicrafts he was much more than an amateur. But beyond the purely practical character of his pursuits he was a man of truly benevolent nature, devoted to his patients, and in turn beloved by them. Imbued with deep though unostentatious religious feeling he was for many years the churchwarden and mainstay of St. John's church in San Remo. To his former patients and friends scattered over many lands his death will come as a severe personal loss. To those among whom he lived and worked, the town authorities, the English residents, and his colleagues his memory will remain green as that of a singularly upright and kindly man. The funeral took place on Dec. 15th and was attended by the civic authorities, the consular body, the officers of the garrison, the various philanthropic societies, and the medical men of all nationalities practising in the town, as well as by the English colony and natives from all walks of life who wished to show the last tribute of respect.

FREDERICK GEORGE ENGELBACH, M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.,

CIVIL SURGEON, R.A.M.C.

WE deeply regret having to record the untimely death of Civil Surgeon Engelbach, who was killed in action on Dec. 13th at Nooitgedacht, while assisting the wounded under a heavy fire. Civil Surgeon Engelbach was the eldest son of Mr. Lewis W. Engelbach, C.B., late Commissioner of H.M. Customs. He was educated at St. Bartholomew's Hospital, qualified in 1886, and almost immediately commenced practice in Moretonhampstead. Enthusiasm was the keynote of his life. He took the keenest interest in all town and county affairs, was an interesting lecturer on many subjects, and had a decided literary faculty, which he exercised frequently in writing articles for the periodical journals, and which might have secured him a large measure of success had his energies not been otherwise engaged. Mr. Engelbach was practically the sole originator of the local volunteer company, of which he was captain for several years and which flourished under his skilful and energetic rule. Removing to London, he continued his many forms of work and, when the outlook in South Africa was blackest, he thought it his duty to leave home and practice and to do his share in the saving of the Empire. He arrived in

South Africa just in time to join the 2nd Cavalry Brigade in the rapid movement on Kimberley. He was present at the battles of Paardeberg and Poplar Grove and at the entry into Bloemfontein. After a short spell of stationary work there he accompanied the field hospital of the same brigade through the battle of Houtnek, the great march of Ian Hamilton's force to Pretoria and during the two days' battle of Diamond Hill. For some time he was in sole charge of this field hospital and was very popular with both officers and men of the brigade. Being detached on duty he was present at Fouriesberg during the surrender of General Prinsloo's forces and subsequently had charge of a stationary hospital at Rietfontein. An excellent organiser, much appreciated by his patients, and daring almost to rashness, he showed how valuable a civil surgeon may be in the field. Those whom he helped—and they are many—will never forget his untiring energy on their behalf and the cheery kindness which accompanied it. He was liked by the soldier, loved by the children, respected by the Boer, and he died the death he thought the noblest. He leaves a widow and one son to mourn their loss.

Medical News.

UNIVERSITY OF LONDON.—The following candidates were successful in the examinations indicated:—

M.D. EXAMINATION.

Medicine.—*Edward William Adams, University College, Sheffield; Louisa Garrett Anderson, B.S., London School of Medicine and Royal Free Hospital; Henry Thompson Barron, Westminster Hospital; James Arthur Belcher, University College; Sydney Henning Belfrage, St. Thomas's Hospital and University College; Guy Joseph Branson, B.A., Mason University College; William Robert Bryett, B.A., King's College; Arthur Hunton Carter, B.S., Guy's Hospital; John Samuel Chater, St. Bartholomew's Hospital; *Edward Fisk, B.S., Guy's Hospital; Arthur Henry Gault, Owens College and Manchester Royal Infirmary; Ernest William Hey Groves, B.Sc., St. Bartholomew's Hospital; Henry William Harding, St. Thomas's Hospital; Harry Edward Hewitt, B.S., St. Thomas's and Guy's Hospitals; Thomas William Hicks, St. Thomas's Hospital; Reginald Gower Kirton, London Hospital; Beatrice Knowles, B.S., London School of Medicine and Royal Free Hospital; Frank Charles Lewis, B.S., St. Mary's Hospital; Herbert Willoughby Lyle, King's College; Charles Herbert Meiland, Owens College and Manchester Royal Infirmary; Charles Grant Pugh, B.Sc. (gold medal) Middlesex Hospital; Clive Riviere, St. Bartholomew's Hospital; Harold Douglas Singer, St Thomas's Hospital; Ernest William Spink, B.S., Yorkshire College; Caroline Sturge, London School of Medicine for Women; Richard James Warrington, Owens College and Manchester Royal Infirmary; Stephen Longmore B. Wilks, B.S., Yorkshire College; Alexander Gordon Wilson, London Hospital; and William Wrangham, St. Bartholomew's Hospital.

* Obtained the number of marks qualifying for the gold medal.

M.S. EXAMINATION.

Thomas Rupert H. Bucknall, M.D., and Wilfd. Batten L. Trotter, M.D., University College.

B.S. EXAMINATION.

Second Division.—William Marmaduke Bergin, University College, Bristol, and St. Bartholomew's Hospital; Charles Hildred Brodribb, St. Mary's Hospital; James Alfred Butler, Guy's Hospital; Herbert Sherwell Clogg, Charing-cross Hospital; John Thomas Dunston and Herbert Lightfoot Eason, Guy's Hospital; Sarah Louise Fraser, London School of Medicine and Royal Free Hospital; William Gough, B.Sc., Yorkshire College; Louisa Hamilton, Royal Free Hospital; Russell John Howard and Charles Llewellyn Lander, B.Sc., London Hospital; Thomas Noy Leah, St. Mary's Hospital; Alfred Ernest John Lister, St. Bartholomew's Hospital; William Henville Lowman, King's College; Frank Mayo Morris, London Hospital; Eugene Michael Niall, St. Bartholomew's Hospital; Mabel Paine, London School of Medicine and Royal Free Hospital; John Herbert Parsons, B.Sc. Bristol, University College, London, and St. Bartholomew's; George Edward James A. Robinson, Dublin University, Royal College of Surgeons, Ireland, and King's College; and William Stuart Vernon Stock, University College, Bristol.

N.B.—The foregoing lists, published for the convenience of candidates, are provisional only, and are not final until the reports of the examiners shall have been confirmed by the Senate.

UNIVERSITY OF CAMBRIDGE.—At the examinations for medical and surgical degrees, Michaelmas term, the following candidates were successful:—

SECOND EXAMINATION.

Part II.

Human Anatomy and Physiology.—C. Akerman, B.A., Caius; C. A. Anderson, B.A., Trinity; G. T. Birks, B.A., King's; M. B. Briggs, B.A., St. John's; R. Butterworth, B.A., Christ's; S. W. Cole, B.A., Trinity; D. H. Collingham, B.A., King's; H. Cooper, B.A., Emmanuel; G. Cowan, B.A., King's; H. H. Dale, B.A., Trinity; G. E. Davidson, B.A., Caius; G. B. Davis, M.A., Corpus Christi; H. M. Davies, B.A., Trinity; W. G. P. Ellis, M.A., Catharine; H. Falk, B.A., King's; A. H. Falkner, B.A., Peterhouse; T. J. Faulder, B.A., Clare; H. H. J. Fawcett, B.A., Trinity; G. R. Footner, B.A., Pembroke; H. P. Gibb, B.A., Sidney Sussex; J. Goss, B.A., Jesus; C. B. Goulden, B.A., Non-Collegiate; C. F. Hadfield, B.A., and J. M. Hamill, Trinity; S. L. Harke, B.A., Pembroke; G. H. Harper-Smith, B.A., Caius; P. Harrison, M.A., Christ's; F. A. Hepworth, B.A., St. John's; E. Higson, B.A., Magdalene; G. G. Hirst, B.A., Caius; J. B. Irving, B.A., St. John's; R. O. Lee, B.A., Emmanuel; T. C. Lucas, B.A., Clare; F. M. Matheson, B.A., Caius; R. F. Moore, B.A., Christ's; B. H. Pain, B.A., Emmanuel; J. E. Pellow, B.A., and C. T. M. Plowright, B.A., St. John's; N. O. Roberts, M.A., Christ's; J. M. Stenhouse, B.A., Sidney Sussex; H. T. Thompson, B.A., Christ's; G. A. Ticehurst, B.A., St. John's; J. D. C. White, M.A., Trinity; R. E. Whitting, B.A., King's; R. G. Wills, B.A., St. John's; A. B. Wilson, Pembroke; C. J. Wilson, Christ's; and E. A. Wright, B.A., H. Selwyn.

THIRD EXAMINATION.

Part II.

Medicine.—W. H. W. Attlee, B.A., St. John's; F. A. Bainbridge, B.A., Trinity; F. E. Brunner, B.A., Caius; J. P. Candler, B.A., Corpus Christi; E. R. Clarke, B.A., and E. H. Coleman, B.A., St. John's; K. E. Crompton, B.A., and A. H. Davies, B.A., Caius; W. E. Moore Ede, B.A., King's; H. Edmondson, B.A., Clare; H. St. C. Elliott, Trinity; A. Emerson, B.A., Caius; H. S. Gabb, B.A., Downing; T. B. Gilbart-Smith, B.A., Trinity; G. S. Graham-Smith, B.A., Pembroke; W. H. C. Greene, B.A., Corpus Christi; N. Heard, B.A., Downing; M. Horne, B.A., and C. Killick, B.A., Trinity; G. O. Lambert, B.A., St. John's; N. Maclaren, B.A., Trinity; H. R. Mayo, B.A., Caius; J. C. Newman, B.A., Trinity; T. W. S. Paterson, B.A., Caius; L. B. Scott, B.A., Christ's; G. A. C. Shipman, B.A., Trinity; F. C. Shrubsall, M.A., Clare; A. I. Simey, B.A., King's; W. C. P. Smith, B.A., Downing; A. H. Style, B.A., Emmanuel; E. D. Telford, B.A., Caius; H. A. Upward, B.A., Christ's; R. H. Urwick, B.A., Trinity; H. Walker, B.A., King's; L. Wilkin, M.A., Pembroke; T. Wood, B.A., Caius; W. H. O. Woods, B.A., H. Selwyn; and R. T. Worthington, B.A., Trinity.

SOCIETY OF APOTHECARIES OF LONDON.—In December the following candidates passed in the subjects indicated:—

Surgery.—J. T. Crowe, St. Mary's Hospital; P. W. W. Dawson (Sections I. and II.), Westminster Hospital; H. P. Fox (Sections I. and II.), London Hospital; L. G. Hopkins (Sections I. and II.), University College Hospital; J. W. McDougall (Sections I. and II.), Glasgow; H. W. Reynolds (Sections I. and II.), University College Hospital; R. C. Robertson, Charing-cross Hospital; and F. A. Segreda (Section I.), Guy's Hospital.

Medicine.—P. W. W. Dawson (Sections I. and II.), Westminster Hospital; W. O. Greenwood (Section I.), Leeds; H. B. Hanson (Section I.), Royal Free Hospital; L. G. Hopkins (Sections I. and II.), University College Hospital; D. T. Jones, Middlesex Hospital; J. W. McDougall (Sections I. and II.), Glasgow; H. W. Reynolds (Sections I. and II.), University College Hospital; and C. H. Williams, St. Bartholomew's Hospital.

Forensic Medicine.—P. C. Burgess, Middlesex Hospital; F. W. W. Dawson, Westminster Hospital; H. P. Fox, London Hospital; W. O. Greenwood, Leeds; H. B. Hanson, S. K. K. Haslam, and S. F. Hickman, Royal Free Hospital; L. G. Hopkins, University College Hospital; J. W. McDougall, Glasgow; H. W. Reynolds, University College Hospital; and W. A. Sugden, St. Mary's Hospital.

Midwifery.—J. E. Bolton, Leeds; F. W. W. Dawson, Westminster Hospital; H. P. Fox, London Hospital; B. Goltein, Vienna; W. O. Greenwood, Leeds; H. B. Hanson and S. K. K. Haslam, Royal Free Hospital; L. G. Hopkins, University College Hospital; E. T. Longhurst, St. Mary's Hospital; J. W. McDougall, Glasgow; E. E. Naggiar, St. Mary's Hospital; H. W. Reynolds, University College Hospital; R. E. Roberts, St. Thomas's Hospital; and G. Roper, Cambridge.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: F. W. W. Dawson, L. G. Hopkins, J. W. McDougall, H. W. Reynolds, R. C. Robertson, and R. E. Roberts.

QUACK MEDICINE AND A LOTTERY.—At the Louth (Lincs.) borough police-court recently Ernest George Cheetham, Cannon-street, Louth, pleaded not guilty on being charged with having published a proposal for the sale of tickets in a lottery. Evidence was given that the defendant traded as "Dr. Fenn's Medicine Company, incorporated with the Veldt Manufacturing Company," and had published circulars offering 50 Christmas hampers "cram full of good things" to purchasers of his preparations, guaranteeing that "the articles in question have been tried with private patients, without one single failure for the past five years." The circular went on: "To every person who sends to our depôt a postal order value the price of any one of these preparations, we shall, with the article, send a duplicate numbered ticket, we retaining one ourselves. For each bottle or box ordered within four days after delivery of this notice one ticket will be sent, so if three boxes or bottles were ordered you would receive three separate numbers, and perhaps obtain three hampers. Those numbered tickets which we hold, and which correspond with those sent to you, are all put in a box after being placed in separate plain envelopes. They will then be thoroughly mixed up, and fifty drawn out at random by some person appointed by the committee. These drawn numbers will be advertised in the front 'Personal' column of the *Morning Leader* on the morning of Dec. 15th. And such

persons having the duplicate of any number or numbers must return them to our office, and will then be entitled to receive hampers as stated," to be despatched on Friday, Dec. 21st. Evidence was also given as to the purchase of the "remedies" and the issue of tickets to the purchaser. Defendant contended that each person received full value for the money laid down, and the hampers were merely a "seasonable present." In introducing these things to the market he offered the hampers as an inducement. About one-third of the applicants did not mention the hamper or the ticket, but the tickets were sent to all applicants who wrote during the stipulated time. The justices imposed a fine of £5 and 11*s.* costs, and warned defendant that a repetition of the offence would bring on him the full penalty of the law.

ROYAL METEOROLOGICAL SOCIETY.—The monthly meeting of this society was held on Dec. 19th, at the Institution of Civil Engineers, Westminster, Dr. C. Theodore Williams, the president, being in the chair. Mr. H. Mellish read a paper on the Seasonal Rainfall of the British Isles, which he illustrated with a number of lantern slides. He discussed the rainfall returns from 210 stations for the 25 years 1866–90, and calculated the percentage of the mean annual rainfall for each season. In winter the largest percentages of rainfall are found, as a rule, at the wet stations and the smallest at the dry ones. Spring is everywhere the driest quarter and the percentages are very uniform over the country, rather larger in the east than in the west. In summer the highest percentages are found in the dry districts and the lowest in the wet ones. As the spring is everywhere dry, so is the autumn, everywhere wet, and there is little difference in the proportion of the annual total which falls in the different districts. As regards the relation between the amount of rain which falls in the wettest and dryest month at any station it seems to be generally the case that the range is larger for wet stations than for dry ones. In wet districts rather more than twice as much rain falls on the average in the wettest month than in the driest and in dry districts rather less than twice as much.

ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS AND OTHER FORMS OF CONSUMPTION.—The annual meeting of the Nottinghamshire branch of this association was held on Dec. 8th at the Exchange Hall, Nottingham. The Duke of Portland, who presided, said that he hoped most sincerely that the scheme for the erection of a sanatorium in the county, which had been in embryo since the meeting held on June 20th, 1899, might now take some practical shape and that the necessary money might be forthcoming to enable the committee to proceed with it. The heavy death-rate from tuberculous diseases was due to causes which could and should be prevented. The clearest evidence had been obtained from all parts of the world, from America, from Germany, from France, and from England, that the open-air treatment in properly regulated institutions was the most efficacious means yet known of arresting the disease and that the method might be carried out in a cold and even damp climate with striking success. The annual report, the adoption of which was moved by Mr. Philo L. Mills, referred to the Duke of Portland's offer, free of cost, of a magnificent site of 50 acres at Ratcher's Hill, in Sherwood Forest, three miles south-east of Mansfield Station, for the erection of a sanatorium. Plans have been prepared for a wooden building to hold 14 patients, which could be built and maintained for a year for £5000. The Mayor of Nottingham moved: "That a hospital for the fresh-air treatment of consumption be established as soon as possible on Ratcher's Hill and that steps be taken at once to raise the funds necessary for that purpose." Dr. W. B. Ransom, in supporting the resolution, said that the open-air treatment of consumption was not a new thing. His father had made trials of it for many years, and Dr. Bodington of Birmingham had put it in practice 61 years ago. The first open-air sanatorium was established in 1859 in Silesia and in the last 40 years these institutions had multiplied throughout Germany. Some were of philanthropic origin and others were founded on strictly business principles by insurance societies which had found that it paid them better to cure a man than to give him sick pay. His opinion was that at least three-fourths of the people attacked by phthisis could, if properly treated in this manner, have their lives saved. The secretaries of the association are Mr. Ernest W. Enfield (Burton Joyce) and Dr. W. B. Ransom (The Pavement, Nottingham). Subscriptions amounting to about £2800 have already been promised.

"A CONSCIENTIOUS OBJECTION."—On Dec. 15th at the Plymouth Police-court a local police-constable asked the magistrates to exempt his child from vaccination as he was afraid that lunacy might follow the operation.

VACCINATION PROSECUTION.—At the Devonport Police-court on Dec. 19th a man who was summoned for neglecting to have his two children vaccinated was fined 5*s.* in respect of one child and ordered to have the other one vaccinated within a month.

PRESENTATION TO A MEDICAL MAN.—At a special meeting of the Bristol branch of the Boilermakers' Society held on Dec. 7th a framed emblem of the society was presented to Mr. Walter R. T. Hawkins, M.R.C.S. Eng., L.S.A., as a mark of appreciation for his services as medical officer for the past 14 years.

PRESCRIBING DRUGGISTS.—An inquest was held at Newton Abbot (Devon) on Dec. 19th relative to the death of a girl aged three years. When the child fell ill the mother consulted a druggist who without seeing the patient prescribed some medicine containing rhubarb and magnesia. A medical man was eventually called in. Death occurred on Dec. 17th and a post-mortem examination showed that it was caused by acute peritonitis. The jury returned a verdict of "Death from natural causes," and censured the druggist.

CARDIFF INFIRMARY.—At a meeting of the executive committee of the Cardiff Infirmary held on Dec. 19th the medical board recommended for the post of assistant house surgeon a gentleman who did not possess the highest professional qualifications amongst the candidates, Dr. H. R. Vachell explaining to the mayor and committee that it was considered unwise to appoint a gentleman with the higher qualifications for a minor appointment. The mayor, who took a different view on the matter, in the course of his speech said that there was a growing feeling in Cardiff that the infirmary was being run by the medical board, and it was in consequence of this opinion that the heavy debt on the institution had been incurred, and added that if the whole of the medical staff resigned there were plenty of qualified men in the town who would take their places. After some discussion the committee by a majority of three decided to appoint the candidate with the higher qualification who had been rejected by the medical board. Dr. Vachell later stated that owing to the remarks of the mayor he at once tendered his resignation as a member of the medical staff, and Dr. T. Wallace said that a meeting of the medical staff would be called to consider their action.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

BAILEY, REGINALD THRELFALL, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Assistant Medical Officer to the Mill-road Infirmary, Liverpool.

BEESLEY, CLARENCE, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., D.P.H. Camb., has been appointed Medical Officer of Health for Budleigh Salterton (Devonshire) Urban District.

BIRCHALL, E. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Senior House Surgeon for the Walton Workhouse, West Derby Union.

BRISTOW, W. M., L.R.C.P. Edin., M.R.C.S., has been appointed Honorary Medical Officer to the New Victoria Central Hospital at Liscard.

CHEVES, R. J., M.B., Ch.B. Aberd., has been appointed Parochial Medical Officer and Public Vaccinator, Longside, vice N. Lawrence.

CRAIGMILE, ALEX., M.D. Aberd., has been appointed Honorary Medical Officer to the New Victoria Central Hospital at Liscard.

EADON, W. FREDERICK BAILEY, L.R.C.P., L.R.C.S., L.M. Edin., has been re-appointed Medical Officer and Public Vaccinator for the No. 2 District by the Chipping Sodbury (Gloucestershire) Board of Guardians.

GODWIN, G. L., L.S.A., has been appointed Surgeon for the Stamfrey Side of the Oxcroft Colliery, Bolsover.

JONES, A. L., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer by the Oystermouth District Council.

JONES, ARTHUR LLOYD, M.R.C.S., L.S.A., D.P.H. Camb., Surgeon-Captain, 3rd Glamorgan R.V., has been appointed to the Medical Charge of Troops stationed at the Mumbles Battery, South Wales, vice J. J. Bevan, deceased.

MACDONALD, B. F. P., M.D. Edin., has been appointed Honorary Medical Officer to the New Victoria Central Hospital at Liscard.

MARSHALL, FRANK E., M.B., Ch.B. Vict., L.S.A., has been appointed Honorary Administrator of Anæsthetics to the Liverpool Dental Hospital.

MOORE, T. G. J., L.S.A., has been appointed Medical Officer, *pro tem.*, by the Reading Board of Guardians.

MORGAN, F. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Eastville Workhouse by the Bristol Board of Guardians.

NAPIER, J. W. A., M.D. Aberd., has been appointed Honorary Medical Officer to the New Victoria Central Hospital at Liscard.

NICHOLLS, ALFRED ROBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Langport (Somerset) Rural District Council.

ROBINSON, N. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer, *pro tem.*, by the Henley Rural District Council.

SIMPSON, A. P. H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer at the Mill-road Infirmary, West Derby Union.

SPENCER, W., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon for the Shuttlewood Side of the Oxcroft Colliery, Bolsover.

STEDMAN, S. B., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Swinhope Sanitary District, Caistor Union.

STEWART, J. S., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Branksome Urban District Council.

THOMAS, D. L., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer by the Stepney Borough Council.

WEBB, JOHN EUSTACE, M.B., C.M. Aberd., has been appointed Medical Officer and Public Vaccinator for the No. 2 District of the Liskeard (Cornwall) Union, vice L. F. Houghton, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADELAIDE HOSPITAL, South Australia.—Two Resident Medical Officers for twelve months. Salary £120 per annum, with board, &c. Apply to the Agent-General for South Australia, 1, Crosby-square, Bishopsgate-street Within, London, E.C.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street, Birmingham.—Assistant House Surgeon. Salary £60 per annum, with apartments and board.

BURGH OF LEITH.—Medical Officer of Health. Salary £400 a year. Apply to the Town Clerk, Town Clerk's Office, Leith.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon for two years, unmarried. Salary £45 per annum, with board, lodging, and washing.

COUNTY ASYLUM, Whittingham, Lancashire.—Junior Assistant Medical Officer. Salary commencing at £150, increasing to £200, and on promotion to £250, furnished apartments, board, washing, and attendance provided.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—Pathologist and Registrar for one year.

EAST SUFFOLK AND IPSWICH HOSPITAL, Thorofare, Ipswich.—Two House Surgeons, unmarried. Salaries £100 for the senior and £70 for the second House Surgeon, with board, lodging, and washing.

FISHERTON HOUSE ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing. Apply to Dr. Finch, Salisbury,

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION, Gloucester.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, residence, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—Senior House Surgeon for six months. Salary at the rate of £60 per annum, with board, lodging, and washing in the hospital. Also Junior House Physician for six months. Salary at the rate of £30 per annum, with board, lodging, and washing in the hospital.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing by £10 a year to £120, conditionally, with board, residence, attendance, and washing.

HOSPITAL FOR WOMEN, Soho-square, London, W.—Assistant Physician. Also Assistant Surgeon.

HULL ROYAL INFIRMARY.—Honorary Assistant Surgeon to Out-patient Department for five years.

KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Fourth Assistant Medical Officer and Pathologist for two years, unmarried. Salary £175 per annum, rising £5 a year, with furnished quarters, attendance, coal, gas, garden produce, and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Assistant Surgeon.

METROPOLITAN BOROUGH OF GREENWICH.—Medical Officer of Health. Salary £700 per annum. Pension on retirement not allowed. Apply to the Deputy Town Clerk, Town Hall, Greenwich-road, S.E.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lectureship on Anatomy.

MILLER HOSPITAL and ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £60 per annum, with board, attendance, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, London.—House Physician for six months. Salary at the rate of £80 per annum, with board, residence, and laundry.—Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board.

RAMSGATE AND ST. LAWRENCE ROYAL DISPENSARY AND THE GENERAL HOSPITAL AND SEAMEN'S INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with furnished apartments, board, and attendance. £10 allowed for substitute during annual holiday.

ROYAL INFIRMARY, Hull.—Senior House Surgeon for two years, unmarried. Salary 100 guineas per annum, with board and furnished apartments.

ROYAL INFIRMARY, Newcastle-on-Tyne.—Accident Room House Surgeon for three months. Salary £25 for that period, with board, residence, and washing.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

SALFORD UNION [illegible] Assistant Medical Officer, male, at the Union Infirmary, Hop[illegible], ne[illegible]cles, for one year. Salary £150, with furnished apartments and attendance (no rations) in the Infirmary. Apply to the Clerk to the Guardians, Union Offices, Eccles New-road, Salford.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50.

WEST KENT GENERAL HOSPITAL, Maidstone.—Assistant House Surgeon for six months. Honorarium at the rate of £50 per annum, with board and residence. Also House Surgeon, unmarried. Salary 100 guineas per annum, with board and residence, &c., rising 10 guineas a year up to 120 guineas.

WEST RIDING OF YORKSHIRE.—Bacteriologist on the Staff of the County Medical Officer. Salary £250 per annum, rising by biennial increases of £25 to £400 a year. Apply to the Clerk to the Committee, County Hall, Wakefield.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Assistant House Surgeon for six months. Honorarium at the rate of £75 per annum will be given. Board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

BARTLETT.—On Dec. 20th, at the Limes, Romsey, Hampshire, the wife of Ralph C. Bartlett, M.R.C.S., L.R.C.P., of a daughter.

KEPPEL-COMPTON.—On Dec. 11th, at Denzil-place, Southampton, the wife of J. H. Keppel-Compton, M.R.C.S., L.R.C.P. Lond., of twin sons (prematurely).

KINGSFORD.—On Dec. 19th, at Woking, the wife of Bertram H. Kingsford, M.B. Lond., of a daughter.

RUSHWORTH.—On Dec. 18th, at Beechfield, Walton-on-Thames, the wife of Norman Rushworth, M.R.C.S., L.R.C.P., of a daughter.

STAPLES.—On Dec. 14th, at Granville-park, Blackheath, S.E., the wife of Brigade-Surgeon Lieutenant-Colonel F. P. Staples, Rd., of a son

MARRIAGES.

BINGLEY—HEY.—On Nov. 16th, at St. Paul's Cathedral, Calcutta, Ernest Horsford Bingley, M.R.C.S., L.R.C.P. Lond., to Ruth Oliver, elder daughter of the late Rev. Charles Edward Hey, M.A., formerly Precentor of Bristol Cathedral.

LING—PORTER.—On Dec. 18th, at St. Jude's Church, South Kensington, Maurice E. Ling, M.D., of West Halkin-street, S.W., to Mary Constance, widow of Captain Henry Porter, late of the Royal Fusiliers, and third daughter of the late Mr. De la Bere P. Blaine, of Cromwell-road and Mersham le Hatch, Ashford, Kent.

TURNER—WARD.—On Dec. 18th, at the parish church of St. Marylebone, James Smith Turner, M.R.C.S., L.D.S., of George-street, Hanover-square, W., to Agnes, daughter of the late Rev. Henry Ward.

DEATHS.

BROWN.—On Dec. 24th, at St. Thomas's Hospital, J. Chalmers Brown, M.B., C.M. Edin., aged 33 years, eldest son of the late William Brown, Leith.

DABBS.—On Saturday, Dec. 22nd, at Highfields, Shanklin, Isle of Wight, Nina Laura, the wife of George Henry Roqué Dabbs, M.D., aged 52 years.

HOWELL.—On Dec. 14th, at his residence, 72, Boundary-road, South Hampstead, Horace Sydney Howell, M.D., F.R.C.S., aged 62 years.

MORRIS.—On Dec. 22nd, at Somer's-place, Hyde-park-square, W., James Morris, M.D. Lond., in his 75th year.

TAYLOR.—On Dec. 23rd, at Beech Holme, Bocking, Braintree, Thomas Taylor, M.R.C.S., aged 80.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—It may possibly interest some of your readers to see actual figures (taken from my expenditure book), showing comparative cost of motor-car as against horse and carriage for 12 months. Repairs, rent, rates, wages, &c., are not included, as I find the cost is much the same in both cases:—

One horse.	£ s. d.	Two horses.	£ s. d.	Motor-car.	£ s. d.
Fodder* ...	37 0 0	...	74 0 0	Petrol	10 17 0
Farrier ...	3 8 0	...	6 16 0	Lubricant...	1 0 0
Saddler ...	4 0 0	...	4 0 0	Accumulators...	0 7 6
				Pr. new chains	3 0 0
	44 8 0		84 16 0	Pr. new belts	0 6 0
					15 10 6

* "Fodder" includes oats, hay, bran, and straw.

Initial cost and interest at 5 per cent. per annum:—

	£ s. d.	
Hooded gig	50 0 0	
Horse...	50 0 0	
Harness (one set)	19 0 0	
	119 0 0	—Interest, £5 19s. 0d.
Victoria	120 0 0	
Horse...	50 0 0	
Harness (one set)	19 0 0	
	189 0 0	—Interest, £9 9s. 0d.
Hooded Benz	200 0 0	—Interest, £10 0s. 0d.

Comparative cost of each, per annum, with interest on initial outlay:—

	£ s. d.
One horse and gig	50 7 0
Two horses and gig	90 15 0
One horse and victoria	53 17 0
Two horses and victoria	94 5 0
Motor-car	25 10 6

Saving:—

	£ s. d.
1. In up-keep, over single horse and gig	34 16 6
,, ,, two horses and gig	75 4 6
,, ,, single horse and victoria	38 6 6
,, ,, two horses and victoria	78 14 6

2. Rent and rate of stables; coachhouse only required.

3. Man's time in grooming and feeding horse; man available for other work; if he wants a holiday no substitute required for these purposes. Feeding a horse has to be done regularly and at specified times.

4. When car is not in use no feeding expense going on.

5. Car is never tired and can be kept going as long as one has time to sit in it, thus doing unlimited work.

I am, Sirs, yours faithfully,

East Molesey, Dec. 20th, 1900. W. W. HARDWICKE, M.D. St. And.

SEXUAL LITERATURE.

A CORRESPONDENT sends us a cutting from an advertisement of a Bombay firm of booksellers. The cutting contains a list of "Useful Medical Works," which are further said to be "Required in Every Day Life." They deal with such matters as the Natural History of Generation, the Male Generative Organs, "Nerves and the Nervous" (*sic*), which among other subjects discusses Nymphomania. These books are mostly fully illustrated and are said to be by one "Dr. F. Hollick," who, however, does not appear to be registered. Our correspondent asks whether the subject matter is "such as may be safely placed in the hands of young persons." To this question there can be but one answer—namely, "No," and we should further say from the style of the advertisement that the books were perfectly useless for anybody.

THE LONDON SCHOOLS DINNER ASSOCIATION.

"THE London Schools Dinner Association," which was founded by the union of several societies which had previously been engaged in the work of providing cheap or free dinners for necessitous children, has issued an appeal, signed by Lord Reay, for support. The association and its committees during last winter provided more than 600,000 meals for underfed children. The winter was one of exceptional freedom from distress; but, nevertheless, the association was obliged to provide a sum of £1233 in grants to these committees. To meet this necessary expenditure only £870 were received in subscriptions. All public elementary schools are assisted with perfect impartiality, and only two conditions are imposed: first, proof of the existence of need for help; and, secondly, the formation of an efficient local committee to undertake the discriminating administration of the grants. It would be more than a pity if the work of this excellent institution should be crippled by want of funds. The honorary treasurer of the association is Lord Kinnaird, 1, Pall Mall East, and cheques should be made payable to "The London Schools Dinner Association," and sent to the secretary, 117, School Board Offices, Victoria Embankment, W.C.

"THE TREATMENT OF BROMIDROSIS."

To the Editors of THE LANCET.

SIRS,—In reply to "G. P.," whose letter appeared in THE LANCET of Dec. 22nd, p. 1854, I found that the following line of treatment afforded most satisfaction in a case somewhat similar to that of his patient. Careful attention was given to the rectification of constipation, faulty digestion, and menstrual irregularity, and the diet was discreetly scrutinised, the quantity of animal food and eggs taken was limited, all alcohol being forbidden. Salicylate of soda was given three times daily in five-grain doses, except during menstruation. A dusting powder containing salicylic and boric acids and kieselguhr was ordered to be used over the whole body, particularly in the axillæ and on the feet, and the powder was also to be dusted into the stockings and boots. A morning and evening bath, as hot as could be borne, of 1 per cent. formalin was taken daily, and the skin was afterwards wiped not rubbed, dry, this bath being repeated before any active exercise was anticipated, such as a tennis party or dance, &c.

I am, Sirs, yours faithfully,

Dec. 24th, 1900. A. R. F. R.

"A SUGGESTION FOR THE UNIVERSITIES OF OXFORD AND CAMBRIDGE."

To the Editors of THE LANCET.

SIRS,—Although it is true the University of Cambridge does not think it desirable strictly to "enforce" an Arts degree practically all its medical graduates graduate in Arts also; the exceptions may be 2 or 3 per cent., and in these the omission is usually due to some accident, such as illness, and is regretted both by teacher and student. Your correspondent, whose letter appears in THE LANCET of Dec. 22nd, p. 1853, is right in saying that Oxford and Cambridge are not to be regarded as mere technical schools for the training of professional experts in any calling.

I am, Sirs, yours faithfully,

Dec. 26th, 1900. A RESIDENT TEACHER.

Very Much Disgusted.—We are in sympathy with our correspondent and the length of time that the offender against the unwritten laws of professional behaviour has been upon the Register makes the matter worse. The corporations from which he derives his diplomas should be asked to bring pressure upon him.

A Subscriber, &c., is thanked for his letter. We do not accept advertisements which on their face propose to sweat medical men, but would-be advertisers know this. We are therefore much obliged by receiving such information as our correspondent has sent us.

M.B., Rhodesia.—The terminology of the advertisement is certainly unfortunate, but it is impossible to apply the same canons of etiquette in a settled community and one in which conditions are, as at present, unsettled.

Physician.—The coroner's disquisition on the law was correct. His stricture of the medical man was not warranted by the facts as set out in the newspaper cutting sent to us, but it was advisable that an inquest should be held.

Mr. C. H. Sers.—We cannot trace the receipt of the communication in question.

F. F. S.—There can be no objection.

ERRATUM.—In the list of books received in our last week's issue the price of "What to Do in Cases of Poisoning," received from Mr. H. K. Lewis, should read *3s. 6d.* and not 1s.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Mar (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (5th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (2nd).—OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shown by Dr. Herman, Dr. H. Spencer, and others.—Paper:—Dr. Anning and Mr. Littlewood (introduced by Dr. H. Spencer): Primary Ovarian Pregnancy, with Rupture 14 days after Last Menstruation.

THURSDAY (3rd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—Clinical Evening.

FRIDAY (4th).—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Agenda: To Discuss New Rules and Transact Annual Business.—Cases will be shown by Sir F. Semon, Mr. Robinson, Dr. Horne, Dr. Tilley, Mr. Waggett, Dr. Davis, and Mr. B. Kelly. (Annual Dinner, 8 P.M., Café Royal.)

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M. Papers:—Mr. J. Clarke: Some Surgical Phases of Rheumatoid Arthritis and Gout.—Mr. J. G. Pardoe: On the Use of the Retained Catheter (*sonde à demeure*) in some Lesions and Suppurations of the Male Urinary Passages.—Mr. J. R. Lunn: Stomach 12 months after Gastrostomy.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEDNESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. E. Squire: Consultation. (Medical.)

THURSDAY (3rd).—CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. T. Nunn: Malignant Disease of the Thyroid Gland.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. N. Maclehose: Consultation. (Eye.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1900 which is completed with the issue of to-day, will be given in the next number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1900 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied, Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 27th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Dec. 21	29·69	W.	0·09	74	50	44	42	44	Fine
" 22	30·07	W.	0·07	50	44	37	37	38	Overcast
" 23	30·03	W.	...	42	38	38	37	38	Foggy
" 24	30·04	S.W.	...	50	50	33	33	35	Foggy
" 25	30·05	S.W.	...	56	52	35	49	50	Cloudy
" 26	29·84	S.W.	0·06	64	51	48	50	50	Cloudy
" 27	29·52	S.	0·19	52	49	47	48	49	Raining

During the week marked copies of the following newspapers have been received: *Derby Express, Liverpool Daily Post, Walton Gazette, Birmingham Argus, Newcastle Journal, Essex Herald, Cambria Leader, Hereford Mercury, Exeter Times, Glasgow Herald, Penrith Observer, Sheffield Daily Telegraph, Bradford Observer, Nottingham Daily Express, Glasgow Citizen, Oxford Times, Bristol Mercury, Leeds Mercury, Dublin Express, Darlington Star, Citizen, Scotsman, Yorkshire Post, Times of India, Pioneer Mail, Architect, Builder, Poole Herald, Beverley Guardian, Huddersfield Examiner, Sanitary Record, Local Government Chronicle, Mining Journal, Reading Mercury, Merthyr Express, Hertfordshire Mercury, City Press, Burton Chronicle, East London Advertiser, Worcestershire Chronicle, Meath Herald, Folkestone Telegraph, Hartlepool Mail, Brighton Gazette, Exeter Times, Kent Examiner, Suffolk Chronicle, Rock, Observer (North Wales), Sheffield and Rotherham Independent, Surrey Advertiser, Salisbury and Winchester Journal, Local Government Journal, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Abbey Effervescent Salt Co., Lond.; A. B. C., Lond.; Mons. J. Astier, Asnières; Association for Vaccine Lymph, Lond.; Mr. J. F. Aspinwall, Marsden.

B.—Mr. H. Browne, Lond.; Messrs. C. Barker and Sons, Lond.; Dr. J. E. Beggs, Lond.; Messrs. T. B. Browne, Ltd., Lond.; Mr. T. E. Bryers, Sunderland; Mr. T. Bryant, Lond.; Messrs. Bale, Sons, and Danielsson, Lond.; Dr. D. F. Brown, Northwich; Dr. R. J. Buchanan, Liverpool.

C.—Mr. W. F. Collings, Serk; Mr. T. J. Croke, Hull; Dr. R. Caton, Liverpool; Messrs. Carnrick and Co., Lond.; Mr. J. M. Cushman, Jamestown, N.Y., U.S.A.; Messrs. Cassell and Co., Lond.; Herr H. Collens, Inner Arosa, Switzerland; Dr. H. N. Clarke, Lond.; Mr. J. Cæsar, Minster; Clifton Shakespeare Society, Hon. Secretary of; *Cornhill Magazine*, Editor of.

D.—Messrs. Down Brothers, Lond.; Mr. J. W. Draper, Huddersfield; Dr. R. H. Douty, Davos Platz; Dr. J. W. Dalgliesh, Bloemfontein.

E.—East Suffolk Hospital, Ipswich, Secretary of; Dr. F. W. Edridge-Green, Hendon; Mr. T. Edwards, Wakefield; Mr. F. Eve, Lond.; Mr. A. R. F. Evershed, Lond.; Dr. C. R. Elgood, Windsor.

F.—Mr. W. E. Franklin, Newcastle-on-Tyne; Messrs. Fassett and Johnson, Lond.; Dr. Michael Foster, S. Remo; Messrs. J. Feeney and Co., Birmingham; Mr. M. Finucane, Farnboro'; Mr. W. C. Finch, Salisbury; Major Fink, I.M.S. Lond.

G.—Mr. B. B. Gough, Oakamoor; Galignani's Library, Paris; Mr. G. Gresswell, Grimsby; Gledhill's Subs'n. and Advertising Agency, Toronto.

H.—Haydock Lodge, Newton-le-Willows, Secretary of; Hull Royal Infirmary, Secretary of; Mr. H. Hutton, Leamington; Mr. R. Harrison, Lond.; Professor H. W. Harper, Austin, Texas.

J.—Dr. A. Johnston, Glasgow; Dr. G. H. Johnston, Ticehurst; J. L.; J. K., Wrecclesham; Dr. G. Scott Jackson, Alnwick.

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